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UNIVERSITY OF OXFORD.

LOCAL EXAMINATIONS.

PAPERS OF THE EXAMINATION

HELD IN JUNE 1884,

WITH

LISTS OF THE DELEGATES AND THE EXAMINERS
AND THE REGULATIONS AND NOTICES,
PREFIXED.

OXFORD:
PRINTED FOR THE DELEGACY
AT THE CLARENDON PRESS:
AND SOLD BY JAMES PARKER AND CO., OXFORD,
AND 6 SOUTHAMPTON STREET, STRAND, LONDON.
1884.

Price Two Shillings.

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THE STATUTE

AS APPROVED BY CONVOCATION, MAY 8, 1883.

Sectio IV. *Of the Delegates of Local Examinations.*

§ 1. *Of the number of the Delegates and of the Report to be made to Convocation.*

1. For the purposes of this Statute there shall be a Delegacy consisting of the Vice-Chancellor and Proctors and eighteen Members of Convocation elected as follows, namely, six by the Hebdomadal Council from its own number, six by the Congregation of the University, and six by the Vice-Chancellor and Proctors, each holding office for six years and re-eligible. Of the eighteen elected Members three in each section shall vacate office immediately after each triennial election to the Hebdomadal Council. Vacancies at any time before the expiration of the proper period shall be supplied only to the end of such period.

2. The Delegates shall make a report of their proceedings every year to Convocation.

§ 2. *Of the Local Examinations.*

1. There shall be Examinations once at least in every year of persons who are not Members of the University, and who on the 1st day of July in the year in which the Examinations are held shall not have attained the age of 16 and 18 years respectively.

2. The Delegates shall have power to determine the date, places, subjects, and mode of examination, and to grant certificates to those who shall have satisfied the Examiners: provided always that every Candidate shall be examined in Religious Knowledge unless the Parents or Guardians of any Candidate object to such examination. The title of Associate of Arts shall be given to those Candidates who shall have passed the Senior Examination.

3. The Delegates shall have power to grant to any Candidate in the Senior Examination who shall have satisfied the Examiners

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a certificate that he has shown sufficient merit to be excused from Responsions, provided that he has shown such proficiency in Latin, in Greek, and in the elements of Mathematics as would have enabled him if he had offered himself to be examined in Responsions to satisfy the Masters of the Schools in each of those subjects.

4. The Delegates shall have power to admit to the Senior Examination persons who intend to present themselves for the First Examination for the Degree of Mus. Bac., even though they shall have attained the age of 18 years, and also to admit to the Senior or Junior Examination persons who intend to become Medical Students or Law Students, even though they shall have attained the age of 18 or 16 years respectively. Such persons shall not receive any certificate from the Delegates, nor shall they receive the title of Associate of Arts. The Delegates shall keep a register of all persons who satisfy the Examiners under this clause, and shall at the request of such persons notify the fact of their having so satisfied the Examiners to the Professor of Music, the General Medical Council, or the Council of the Incorporated Law Society, or other the proper authority for the time being, as the case may be.

5. The names of the Examiners appointed by the Delegates to conduct the Examinations shall be submitted to Convocation for approval. If any Examiner so approved die, resign, or be deposed from his office, his place shall be supplied by another person nominated by the Delegates and approved by the Vice-Chancellor and Proctors.

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THE DELEGATES.

Official.	The Vice-Chancellor, The Senior Proctor, The Junior Proctor.
Members of the Hebdomadal Council.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. H. F. Pelham, M.A., Fellow and Tutor of Exeter College. Rev. W. Ince, D.D., Canon of Christ Church, Regius Professor of Divinity. Rev. B. Price, M.A., Fellow and late Tutor of Pembroke College, Sedleian Professor of Natural Philosophy. Rev. J. R. King, M.A., Fellow and Tutor of Oriel College.
Elected by Congregation.	Rev. J. Griffiths, D.D., Wadham College, Keeper of the Archives. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. E. Chapman, Esq., M.A., Fellow and Tutor of Magdalen College. Rev. G. Rawlinson, M.A., late Fellow and Tutor of Exeter College, Camden Professor of Ancient History. J. E. T. Rogers, Esq., M.A., Worcester College. E. B. Poulton, M.A., Jesus College, Lecturer of Keble College.
Nominated by the Vice-Chancellor and Proctors.	Rev. E. Moore, D.D., Principal of St. Edmund Hall. Rev. S. Edwardes, M.A., Fellow of Merton College. Alfred Robinson, Esq., M.A., Fellow and Lecturer of New College. Rev. J. F. Bright, M.A., Master of University College. Rev. John Percival, M.A., President of Trinity College. Rev. H. B. George, M.A., Fellow and Tutor of New College.

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N.B. The University Fee payable by Senior Candidates has been reduced from £1 10*s.* to £1 (p. 10).

The substitution of July 1st for April 30th, as the day from which the age of Senior Candidates is to be reckoned, will not take effect until 1885, and consequently any person born on or after April 30th 1866 may be received as a Senior Candidate in the Examinations to be held in 1884 (p. 5).

Oxford Local Examinations.

REGULATIONS

AND

TIME TABLE

FOR THE YEAR

1884.

Attention is called to the changes in the Regulations with respect to the Examinations in English Grammar and Composition (Juniors), p. 2; in Religious Knowledge (Seniors and Juniors), pp. 3, 5; in Latin and Greek (Juniors), pp. 3, 4; in Botany and Zoology (Seniors), pp. 7, 8; Mechanics and Music (Seniors and Juniors), pp. 4, 5, 6 (note); and also to the dates at which the Examinations will be held in 1884, p. 2, and the notice with respect to combined School and Local Examinations, p. 9.

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OXFORD LOCAL EXAMINATIONS.

REGULATIONS FOR THE YEAR 1884.

Two Examinations will be held in the year 1884, commencing on Monday, June 9, and Monday, July 14, respectively.

The Examinations at each Centre will be held at either of these times or both, as the Local Committee may desire. Notice of the time or times at which it is desired that the Examinations should be held must be given to the Delegacy before Feb. 1st, 1884, and the Local Committee must guarantee a payment of £25 for each Examination held at the Centre, in case the Fees paid by the Candidates at each Examination so held fall below that sum.

EXAMINATION OF **JUNIOR CANDIDATES.**

(*For Certificates.*)

Any person of either sex born on or after July 1, 1868, may be received as a Candidate. No one born before that day will be received*.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **Reading aloud** a passage from some English author.
2. **Writing from Dictation.**
3. **English Grammar and Composition.** Passages will be set for parsing, paraphrase, and interpretation. Candidates will be required also to write a short English Composition.
4. **Arithmetic.** Numeration, the first Four Rules, simple and compound, Reduction, Vulgar and Decimal Fractions, and the Single Rule of Three.

N.B. The quality of the handwriting and the spelling will be taken into account.

* Persons who intend to become Medical or Law Students can be admitted above the age of 16, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the General Medical Council or the Council of the Incorporated Law Society, or other the proper authority for the time being, of their success.

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PART II.

The Examination will comprise the following subjects:—
1. **Religious Knowledge.** 2. **English.** 3. **Latin.** 4. **Greek.** 5. **French.** 6. **German.** 7. **Mathematics.** 8. **Mechanics and Mechanism.** 9. **Chemistry.**

Every Candidate will be required to satisfy the Examiners in three at least of these subjects. No Candidate will be examined in more than six. All Candidates must be examined in at least one of the divisions of Religious Knowledge, unless their Parents or Guardians object to this part of the Examination.

1. **Religious Knowledge.** (*a*) The Book of Joshua and Judges i–xviii. (*b*) The Gospel according to St. Mark. (*c*) The Acts i–xii. (*d*) The Catechism.

Opportunity will be given to those Candidates who desire it for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

2. **English.** (*a*) The Outlines of English History from the Norman Conquest to the Battle of Waterloo, with special questions on the period from 1760–1800; (*b*) Shakspeare's "Macbeth*"; (*c*) Physical, Political, and Commercial Geography. An Outline Map of one of the following countries will also be given to be filled up, viz. England and Wales, Ireland, Italy, or North America.

   No Candidate will pass in **English** who does not satisfy the Examiners in two of the three divisions (*a*), (*b*), (*c*).

3. **Latin.** Passages will be given from Caesar, Bell. Gall. V, VI. and from Virgil (Aen. VI) for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

   An easy passage from some other Latin author will be set for translation into English. A few easy English sentences to illustrate common Latin constructions, and a short passage from some English writer, will be given for translation into Latin.

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* Aeschylus, Prometheus Vinctus, price 2*s.*; Homer, Od. II, price 1*s.* 6*d.*; Shakspeare's Macbeth, price 1*s.* 6*d.*; Burke's Reflections on the French Revolution, price 5*s.*; Corneille's Horace, price 2*s.* 6*d.*; Schiller's Wilhelm Tell, price 3*s.* 6*d.* (each with Introduction and Notes); are published in the Clarendon Press Series; and may be obtained of Mr. H. Frowde, Oxford University Press Warehouse, 7 Paternoster Row, London; and at the Clarendon Press Depository, 116 High Street, Oxford.

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4. **Greek.** Passages will be given from Xenophon Cyrop. V, and from Homer Od. II for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

An easy passage from some other Greek author will be set for translation into English.

5. **French.** A passage will be given from Corneille's "Horace"* for translation into English, with grammatical and general questions. A passage from a French Newspaper will be set for translation into English, and English sentences for translation into French.

6. **German.** A passage will be given from Schiller's "Wilhelm Tell," Acts i–ii * for translation into English, with grammatical and general questions. A passage from a German Newspaper will be set for translation into English, and English sentences for translation into German.

7. **Mathematics.** No Candidate will pass in this subject who does not shew a fair knowledge of Euclid, Books I and II, and of Algebra to Simple Equations including Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, and Simple Equations containing one or two unknown quantities and problems producing such equations.

Questions will also be set in the following subjects: (1) Euclid III, IV, VI; (2) Quadratic Equations, Progressions, and Proportion; (3) Plane Trigonometry, including Solution of Triangles, and the use of Logarithms; (4) Mensuration. No credit will be given for a slight knowledge of any of these subjects.

The answers should be illustrated by diagrams, where these can be introduced.

8. **Mechanics and Mechanism.** The Questions will be of an elementary character, extending, in Statics, to the Composition and Resolution of Forces, the determination of the Centre of Gravity in simple cases, and the Mechanical Powers; in Dynamics, to Impact and Collision, the Motion of Falling Bodies, and Attwood's Machine; in Hydrostatics, to the Pressure of Fluids, and the ordinary Hydrostatical and Pneumatical Instruments.

The answers should be illustrated by diagrams, where these can be introduced.

Mechanics and Music may not be taken together.

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* See note on p. 3.

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9. **Chemistry,** including the elementary facts of Chemistry. Substances will be given to be tested, each containing not more than one acid and one base. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

Candidates may also offer themselves for examination in

1. *a.* Drawing from the Flat.
   b. Drawing from the Solid, with light and shade.
2. Music. Questions will be set on Notation, Intervals, Scales, Time, and Rhythm, Signs and Marks of Expression, the Common Chord and its inversions, the Dominant Seventh and its inversions. A short and simple figured bass may be given to be harmonized in accordance with elementary rules.

Music and Mechanics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions; those in the First and Second Divisions will be placed in order of merit; those in the Third Division alphabetically.

Certificates will be issued to the successful Candidates, specifying the subjects in which they satisfied the Examiners, and the Division in which their names are placed.

Lists will be published of the forty Candidates arranged in order of merit who most distinguish themselves in each of the subjects from 1 to 9 inclusive, provided that they also obtain Certificates.

EXAMINATION OF **SENIOR CANDIDATES.**

(*For the Title of Associate in Arts.*)

Any person of either sex born on or after April 30, 1866, may be received as a Candidate. No one born before that day will be received *.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **English Grammar, Analysis, and Composition.**
2. **Arithmetic.**

N.B. The quality of the handwriting and the spelling will be taken into account.

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* Persons who intend to become Candidates for the Degree of Bachelor of Music or Medical Students or Law Students can be admitted above the age of 18, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the Professor of Music, the General Medical Council or the Council of the Incorporated Law Society or other the proper authority for the time being, as the case may be, of the success of such Candidates.

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PART II.

The Examination will comprise the following Sections:—

A. **Religious Knowledge.** B. **English.** C. **Languages.** D. **Mathematics.** E. **Natural Science.** F. **Drawing.** G. **Music.**

Every Candidate will be required to satisfy the Examiners in two at least of the Sections A, B, C, D, E, but if both A and B are offered they will also be required to satisfy the Examiners in either C, D, or E. No Candidate will be examined in more than five of the Sections A, B, C, D, E, F, G.* All Candidates must be examined in one at least of the divisions of Religious Knowledge, unless their parents or guardians object to this part of the Examination.

SECTION A.—RELIGIOUS KNOWLEDGE.

(1) Joshua, Judges i–xviii; (2) The Gospel according to St. Mark; (3) The Acts, i–xii; (4) The First Epistle to the Corinthians; (5) The Catechism, the Morning and Evening Services, and the Litany, and the outlines of the History of the Book of Common Prayer.

Opportunity will be given to those Candidates who desire it for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

SECTION B.—ENGLISH.

1. **English History** during the reign of George III, and the outlines of the History of **English Literature** during the same period, together with the general outlines of English History from the Norman Conquest to the Battle of Waterloo.
2. **Shakspeare's** "Macbeth †", and **Burke's** "Reflections on the French Revolution †."
3. **Physical, Political, and Commercial Geography,** with the filling up of an Outline Map of England and Wales, Ireland, Italy, India, or North America.
4. The elements of **Political Economy.**

No Candidate will pass in this Section who does not shew a fair knowledge of two of these four divisions. No Candidate will be examined in more than three of them, or be allowed to offer 3 and 4 together.

SECTION C.—LANGUAGES.

1. **Latin.** 2. **Greek.** 3. **French.** 4. **German.** 5. **Italian.**

No Candidate will pass in this Section who does not shew a fair knowledge of one of these languages. No Candidate will be examined

* Candidates may not offer both French and Italian; or both Music and Mechanics; or both Greek and Botany, Zoology or Geology. † See note, page 3.

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in more than four of them. French and Italian may not be taken together.

Candidates who offer Latin will be examined in (1) Cic. De Amicit., Catil. I, and in (2) Virgil Aen. VI, and those who offer Greek in (1) Xen. Cyrop. IV, V, (2) Aesch. Prom. Vinct.*. In other languages no books are prescribed.

In each of the five languages questions on grammar will be set, and passages will be given both from unprepared books for translation into English, and of English for translation into Latin, French, German, or Italian, as the case may be.

SECTION D.—MATHEMATICS.

Pure Mathematics to **Algebraical Geometry** inclusive, **Mechanics** (including Mechanism), and **Hydrostatics.**

No Candidate will pass in this Section who does not shew a fair knowledge of Four Books of Euclid, and of Algebra to the end of Quadratic Equations, including Addition, Subtraction, Multiplication, and Division of Algebraical Quantities (including simple irrational quantities expressed by radical signs or fractional indices), Greatest Common Measure and Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, Quadratic Equations containing one unknown quantity, questions producing such equations, and the simplest properties of Ratio and Proportion.

The answers should be illustrated by diagrams, where these can be introduced.

Mechanics and Music may not be taken together.

SECTION E.—NATURAL SCIENCE.

1. **Physics.**

   (*a*) The elementary properties of matter in its solid, fluid, and gaseous forms; density, mass, gravity, weight, specific gravity, and inertia; composition of two forces; centre of gravity; pressure of fluids; laws of motion; construction and use of simple mechanical, hydrostatical, and hydraulic machines.

   (*b*) Elements of Heat.

   (*c*) Elements of Electricity and Magnetism.

No Candidate will pass in this subject who does not shew a fair knowledge of (*a*), and of either (*b*) or (*c*). No Candidate will be examined in (*b*) and (*c*) together.

2. **Chemistry,** including the facts and general principles of Chemical Science. There will be a practical examination in the elements of Analysis. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

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* See note, page 3.

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3. (*a*) **Botany,** including Elementary Vegetable Physiology and the types of the chief divisions of the Vegetable Kingdom.

(*b*) **Zoology,** including Elementary Animal Physiology and the types of the Animal sub-kingdoms.

(*c*) **Geology and Mineralogy.**

No Candidate may offer more than one of these subjects (*a*), (*b*), or (*c*) No part of (3) may be taken with Greek.

No Candidate will pass in this Section who does not shew a fair knowledge of one at least of the divisions 1, 2, 3. In all cases a practical acquaintance with the subject-matter will be indispensable. The answers should be illustrated by diagrams and drawings, where these can be introduced.

Section F.—Drawing.

1. **Drawing from the solid,** with light and shade.
2. **Drawing in perspective.**
3. **Drawing in colour** from a natural object.
4. **Drawing from memory.**

No Candidate will pass in this Section who does not satisfy the Examiners in Drawing from the Solid.

Section G.—Music.

In addition to a thorough knowledge of the subjects prescribed for Junior Candidates, the Seniors must shew an acquaintance with the chords of the Added Ninth and Minor Ninth and their inversions, and must be able to harmonize a figured bass introducing these chords. They may be called upon to add three parts to a given melody.

Music and Mechanics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions, the First and Second Divisions in order of merit, the Third in numerical order under the several centres.

Lists of those who distinguish themselves will also be published for each of the sections A, B, C, D, E, F, G, arranged in two Divisions. The names in each First Division will be placed in order of merit; those in each Second Division alphabetically.

Certificates, signed by the Vice-Chancellor, will be issued to the successful Candidates, conferring the title of Associate in Arts, and specifying the subjects in which they satisfied the Examiners, and the Division or Divisions in which their names are placed.

Those Candidates who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from Responsions, may receive a Certificate from the Delegates to that effect.

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Candidates will be examined in Oxford, and in such other places as the Delegates may appoint. A list of the Local Centres at present appointed will be found on the next page.

An application to have a place appointed for this purpose should come to the Delegates from a Local Committee: such Committee being prepared to guarantee a payment of £25 (in case the Fees paid by the Candidates fall below that sum) and to undertake all those expenses which are occasioned by the Examination being *Local*, that is, by the Candidates being examined at that particular place instead of coming to Oxford for the purpose. Those expenses are mainly the following: the cost of providing suitable rooms for the Examination; the charges incurred by the Superintending Examiner (appointed by the Delegates) in travelling, lodging, and board; postage; carriage of parcels from and to Oxford; and some stationery. Each Committee should appoint a Local Secretary. Applications must be made, and notice of the discontinuance of old Centres must be given, before the 1st of February, 1884.

Girls may be examined at any place where boys are examined, and at such other places as the Delegates may appoint. But in every case the Delegates must first be satisfied, 1. That there is a Local Committee of ladies, who will efficiently superintend the examination of the girls; 2. That such Committee will see that girls who do not live in the place find suitable lodging and accommodation; 3. That the examination room for the girls is quite separate from that intended for the boys.

*** The Local Examinations may, if desired, be combined with a School Examination held under the direction of the Delegacy, and any School so making use of the Local Examinations may be constituted a Special Local Centre. The Regulations under which combined Local and School Examinations will be held may be obtained from the Secretary to the Delegacy.

Printed Forms, on which Candidates are to make application, will be prepared by the 1st of March, and may be obtained from the **Local Secretaries,** whose names are subjoined; for the June Examination until the 31st of March, and for the July Examination until the 30th of April, *after which dates none will be issued.* The Forms for Junior and Senior Candidates are distinct, and applications should state which Forms are required.

For examination *in Oxford* the Forms may be obtained from G. E. Baker, Esq., Clarendon Building, Oxford.

The Forms, duly filled up, must be *returned* to the several Local Secretaries for the June Examination by the 5th of April, and for the July Examination by the 3rd of May. No Candidate's name will be received at any place after those days.

Fees. Every Candidate is required to pay to the University a Fee of 20*s*. At every Centre except Oxford there is also a Local Fee. No Fee can be returned under any circumstances, or be carried to the credit of a Candidate at a subsequent Examination.

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LOCAL CENTRES AND SECRETARIES.

Girls may be received for Examination in Oxford and at those Centres which are marked with. Places marked thus † are* SPECIAL LOCAL CENTRES, *to which Candidates who are not members of the particular Schools may be admitted at the discretion of the School authorities.*

*BATH	(*Boys*)	H. D. Skrine, Esq., Guildhall, Bath. F. Ernest Shum, Esq., 3 Union Street, Bath.
	(*Girls*)	Mrs. Jeffery, 9 Norfolk Crescent, Bath.
†BERKHAMSTED		Rev. E. Bartrum, King Edward VI School, Berkhamsted. W. H. Fricker, Esq., King Edward VI School, Berkhamsted.
†*BIRMINGHAM		G. W. Hickman, Esq., 20 A Temple Row, Birmingham.
,,		Rev. E. F. M. MacCarthy, King Edward VI School, Fiveways,
BOSTON		R. W. Millington, Esq., Boston. [Birmingham.
*BRIGHTON ..	(*Boys*)	Barclay Phillips, Esq., 75 Lansdowne Place, Brighton.
	(*Girls*)	Mrs. H. Martin, 5 Powis Square, Brighton.
*BRISTOL	(*Girls*)	Miss Cocks, High School for Girls, Redland, Bristol.
*CHELTENHAM	(*Boys*)	T. Style, Esq., Cheltenham Grammar School, Cheltenham.
	(*Girls*)	Mrs. Mugliston, Newick House, Cheltenham. Miss Beale, Ladies' College, Cheltenham.
†CROSBY		Rev. S. C. Armour, Merchant Taylors' School, Crosby, Liverpool.
*CRYSTAL PALACE	(*Girls*)	Mrs. Robert Hardwicke, School of Art, Science, and Literature, Crystal Palace, S.E.
DOWNSIDE ..		Rev. H. E. Ford, St. Gregory's College, Downside, Bath.
†KINGSBRIDGE		J. H. Square, Esq., Kingsbridge, S. Devon.
*LEEDS ...		Rev. Dr. Henderson, Grammar School, Leeds.
*LEICESTER ..		C. R. Crossley, Esq., Leicester.
*LINCOLN		Rev. W. W. Fowler, School House, Lincoln.
*LIVERPOOL ..	(*Boys*)	E. F. Evans, Esq., Orrell Park, Aintree, Liverpool.
	(*Girls*)	Miss M. Calder, 49 Canning Street, Liverpool.
*LONDON	(*Boys*)	H. A. Tilley, Esq., 42 Queen Square, Bloomsbury.
	(*Girls*)	Miss Vernon, 59 Carlton Hill, N.W.
*LYTHAM	(*Boys*)	E. R. Lightwood, Esq., Pembroke House School, Lytham.
	(*Girls*)	Miss Macdonald, Ladies' High School, Lytham.
*MANCHESTER	(*Boys*)	Rev. T. C. Skeggs, 14 Fitzwarren St., Pendleton, Manchester.
	(*Girls*)	Mrs. Donner, Anson Road, Victoria Park, Manchester.
†*MILTON MOUNT	(*Girls*)	Miss Hadland, Milton Mount School, Gravesend.
†NORTHLEACH		F. Godwin, Esq., Grammar School, Northleach.
*NOTTINGHAM		Rev. C. Yeld, University School, Nottingham.
†*OSWESTRY ..		O. Owen, Esq., The High School, Oswestry.
†*PETERBOROUGH		Rev. E. J. Cunningham, King's School, Peterborough.
PORTSMOUTH .		Rev. E. P. Grant, The Vicarage, Portsmouth.
†*PRESTON	(*Boys*)	Rev. A. B. Beaven, Grammar School, Preston. W. M. Maddox, Esq., Grammar School, Preston.
	(*Girls*)	Miss Carter, High School for Girls, Preston.
*RAMSGATE ..		Rev. H. L. Fry, 5, Codrington Road, Ramsgate.
*REIGATE		F. G. Johnson, Esq., The Grammar School, Reigate.
*RUGBY....	(*Boys*)	H. T. Rhoades, Esq., Clifton Road, Rugby.
	(*Girls*)	Miss Sharp, Horton House, Rugby.
*SALISBURY ..	(*Boys*)	Rev. H. J. Morton, The Close, Salisbury.
	(*Girls*)	Miss Fawcett, The Close, Salisbury.
*SOUTHAMPTON	(*Boys*)	Rev. J. L. Carrick, Spring Hill, Southampton.
	(*Girls*)	Mrs. Wilberforce, The Deanery, Southampton.
†STRATFORD-ON-AVON		R. F. Currey, Esq., Trinity College School, Stratford-on-Avon.
*STREATHAM HILL		B. Hawkins, Esq., St. Anne's School, Streatham Hill, S.W.
*SWANSEA ..	(*Boys*)	C. H. Perkins, Esq., 17 Somerset Place, Swansea.
	(*Girls*)	Mrs. Reid, 2, Glanmer Terrace, Swansea.
*TAUNTON....	(*Boys*)	Mr. Reginald Barnicott, Parade, Taunton.
	(*Girls*)	Miss Gibson, The Crescent, Taunton.
*THAME		G. Plummer, Esq., Thame Grammar School, Thame.
*TRURO		Rev. G. L. Church, Chacewater Vicarage, Cornwall.
*WARWICK ..		Rev. W. Grundy, King's Grammar School, Warwick.
*WATFORD ..		Rev. H. W. Russell, London Orphan Asylum, Watford.

N.B. The words "Oxford Local Examinations" should be written on the covers of all letters addressed to the Secretaries.

The Delegates are prepared to undertake the Examination of Schools. Applications should be made to the Secretary not less than two months before the day on which it is desired that the Examination should commence.

Examination Papers and Annual Reports with Division Lists, 2*s*. each, also the Papers set at the Examination of Women, 1*s*. 6*d*., and the Report 3*d*., may be obtained from Messrs. Parker and Co., Oxford, and 6 Southampton Street, Strand, London.

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EXEMPTIONS FROM VARIOUS EXAMINATIONS.

1. **Senior Candidates (Boys)** who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from **Responsions**, and **Senior Candidates (Girls)** who shew sufficient merit in two languages and in Mathematics to be excused from the **First Examination for Women**, receive Certificates from the Delegates to that effect.

2. A **Senior** Certificate enables a person to become a Candidate for the degree of **Bachelor of Music** if he passes in (1) Section B, (2) Latin and one of the other Languages in Section C, (3) Euclid and Algebra.

3. Persons who have passed any of the public Examinations of the University of Oxford, among which are the Local Examinations, are excused the Preliminary Examination for **Barristers**.

4. A **Senior** Certificate satisfies the preliminary requirements of the **General Medical Council** and the **Royal College of Surgeons**, if it includes Latin and Mathematics; a **Junior** Certificate if it includes Latin and Mathematics and one of the following:—Greek, French, German, and Mechanics.

5. Persons who have passed the Oxford Local Examinations are excused the Preliminary Examination before entering into Articles of Clerkship with **Attorneys** and **Solicitors**. The published regulations of the **Law** Society state no special subjects.

6. Any Certificate qualifies the holder to compete for admission to the **National Training School for Teachers in Schools of Art**, if it includes English and either Latin or a modern foreign language.

SCHOLARSHIPS AND PRIZES.

7. **Senior Candidates (Boys).** The Dyke Exhibition, of not less than £60 a year, tenable for four years at the University of Oxford, open to any boy, born on or after April 30, 1866, who is a native of any of the counties of Somerset, Devon, and Cornwall, or has for three years past been resident in any of such counties, or has for two years past been educated at any of the Schools in the same counties, provided that he is, in the opinion of the Governors, in need of pecuniary help to support him at the University, will be awarded to such Senior Candidate as the Governors shall think most deserving, having regard to the results of the Examination to be held in 1884.

8. **Senior Candidates (Girls).** One Scholarship, value Thirty Guineas a year, entitling the holder to **free instruction at Bedford College, London**, tenable for two years from Michaelmas, 1884, is offered by the Trustees of Mrs. Reid's Fund for the Higher Education of Women to the Candidate who shall obtain the highest place in the First or Second Division.

9. **The Royal Geographical Society** offers **two Medals**, one of silver and one of bronze, to the two **Senior** Candidates (boys or girls) who shall give the best answers in Geography, provided that their papers are of sufficient merit.

10. **Junior Candidates (Boys).** The following Scholarships will be offered to Junior Candidates who distinguish themselves sufficiently in the Examinations to be held in June and July next:—

1. *Clifton College.* Value £50 a-year, out of a total for school expenses of £105. Tenable for two years, with a possible augmentation up to £90 in case of need, and if the Scholar intends to proceed to one of the Universities or to enter for the Indian Civil Service. Open to any boy who shall be under 15 years of age on July 1, 1884, and who shall attain distinction in Classics or Mathematics,—preference being given to one who knows Greek.
2. *Felstead School.* Value £30, out of a total of £50 for school charges, including all expenses at the School except for Books, Medical attendance, Drawing, and Music. Tenable while the boy remains at the School. Open to any boy who on July 1, 1884, shall be under 16 years of age, and who shall obtain a Certificate, and pass in Latin and Greek or Latin and French, with distinction in Latin, Greek, or Mathematics.
3. *Haileybury College.* Value £65 a-year out of a total for school expenses of about £90. Tenable for three years, and renewable for a further period of a year. Open to any boy who shall be under 16 years of age on Dec. 31, 1884, and who shall attain distinction in Classics or Mathematics.

The offer will in no case be made (1) to the son of parents in easy circumstances; nor (2) to any boy educated at a school the authorities of which have previously notified to the Delegates that such boy is not a candidate for a Scholarship.

The authorities of the schools which offer Scholarships reserve the right of deciding whether they will accept a candidate whose name is submitted to them.

The continued or extended tenure of any Scholarship is in every case conditional on the Scholar's conduct and progress being satisfactory.

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TIME TABLE FOR 1884.

Monday, June 9. „ *July* 14.	*Tuesday, June* 10. „ *July* 15.	*Wednesday, June* 11. „ *July* 16.	*Thursday, June* 12. „ *July* 17.	*Friday, June* 13. „ *July* 18.	*Saturday, June* 14. „ *July* 19.
11 to 1 Physics. S.	9 to 11 *Arithmetic.* S. J. 11 to 1 *English Grammar* and *Composition.* S. J.	9 to 11 Latin (1st Paper). S. 11 to 1 Latin (2nd Paper). S. 9 to 10.30 Latin (1st Paper). J. 10.30 to 12 Latin (2nd Paper). J.	9 to 10.30 French (1st Paper). S. 10.30 to 12.30 French (2nd Paper). S. 9 to 10.30 French (1st Paper). J. 10.30 to 12 French (2nd Paper). J.	9 to 10.30 German (1st Paper). S. 10.30 to 12.30 German (2nd Paper). S. 9 to 10.30 German (1st Paper). J. 10.30 to 12 German (2nd Paper). J.	9 to 11 Botany. Zoology. Geology. } S. *or* 9 to 11 Greek (1st Paper). S. 11 to 1 Greek (2nd Paper). S. 9 to 10.30 Greek (1st Paper). J. 10.30 to 12 Greek (2nd Paper). J.
2 to 3 Joshua, &c. S. J. 3 to 4 St. Mark. S. J. 4 to 5 Acts. S. J.	2 to 4.30 Geography and Map. S. *or* Political Economy. S. 2 to 4 Geography and Map. J.	2 to 4.30 English History. S. 2 to 4 English History. J. 4 to 4.30 *Dictation.* J.	2 to 4.30 Algebra. S. J.	2 to 4.30 Euclid. S. J.	2 to 4.30 Trigonometry and Mensuration. } S. J.
6 to 7 Catechism. J. Prayer Book. S. 7 to 8 Epistle. S.	5.30 to 7.30 Shakspeare. S. J.	5.30 to 7.30 Chemistry. S. J.	5.30 to 7.30 Practical Chemistry. } S. J.	5.30 to 8 Mechanics. S. J. *or* 5.30 to 7.30 Music. S. J.	

N.B. The letters S. and J. signify Senior and Junior respectively. The times for the exercises in "Drawing" and for "Reading aloud" are subject to the discretion of the Examiner at each place. The times for giving out the Papers at the London and Crystal Palace Centres will be slightly earlier or later, as the case may be, than those stated in this Time Table.

G. E. BAKER,
Secretary to the Delegacy.

OXFORD, Dec. 4, 1883.

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GENERAL NOTICE TO CANDIDATES.

1. **The Examination will commence on Monday, the 9th of June, at 11 a.m.**

2. A Time Table, shewing the hours and subjects of Examination each day, will be sent to every Candidate shortly before the Examination. The same Paper will contain some Directions and Cautions, which Candidates are specially desired to observe.

3. Paper and other writing materials will be provided for the Candidates; but they are expected to bring their own pens.

4. **Candidates in Mathematics,** etc., will be allowed to bring in the usual Mathematical Drawing Instruments; subject however to any limitation which the Examiners may think fit. The usual symbols and abbreviations may be employed in writing Mathematical papers.

5. **Candidates in Drawing** should provide themselves with a Drawing Board measuring about 23 inches by 16, eight Drawing pins, and all other necessary materials, *except paper*, which will be supplied by the University. No instruments of any kind will be allowed, except for the Exercise in Perspective.

6. **Candidates in Chemistry** will receive a Notice, specially addressed to them, containing a list of the Apparatus and of the Re-agents which they are to bring to the Practical Examination.

7. **Candidates in Botany** should bring with them a sharp penknife, two needles mounted in handles, and a magnifying glass.

CENTRES AT WHICH THE EXAMINATIONS WERE HELD IN JUNE, 1884.

The Examinations were held in June at the following centres: Bath (Boys and Girls); Crosby (Boys); Crystal Palace (Girls); Leeds (Boys and Girls); Liverpool (Boys and Girls); London (Boys and Girls); Oxford (Boys and Girls); Preston (Boys); Streatham Hill (Boys and Girls); Truro (Boys and Girls); Warwick (Boys and Girls); Watford (Boys and Girls).

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NOTICE TO CANDIDATES IN CHEMISTRY.

For the practical Examination each Candidate is required to provide himself with the necessary re-agents and apparatus.

The following lists, which contain all that is needful according to the usual course of analysis, are intended as a guide to Candidates in making this provision. But each one is at liberty to furnish himself for the Examination with such materials as he has been accustomed to employ.

Re-agents.

Solutions.

Hydrate of Potassium.	Sulphate of Calcium.
Ferrocyanide of Potassium.	Nitrate of Barium.
Carbonate of Sodium.	Sulphate of Magnesium.
Phosphate of Sodium.	Nitrate of Silver.
Bitartrate of Sodium.	Sulphuretted Hydrogen.
Ammonia.	Sulphuric Acid.
Carbonate of Ammonium.	Nitric Acid.
Chloride of Ammonium.	Hydrochloric Acid.
Oxalate of Ammonium.	Acetic Acid.
Sulphide of Ammonium.	Chlorine Water.
Lime Water.	Nitrate of Cobalt.

Solid Substances.

Carbonate of Sodium. Borax. Sulphate of Iron.
Peroxide of Manganese. Bichromate of Potassium. White Starch.

Litmus and Turmeric Papers.

Apparatus.

Three funnels, about $2\frac{1}{2}$ inches diameter.
A dozen test-tubes, about 6 inches long by $\frac{5}{8}$ inch diameter.
Another dozen test-tubes, about 6 inches long by $\frac{7}{8}$ inch diameter.
A packet of cut filters, about $3\frac{3}{4}$ inches diameter.
A stand for test-tubes, to hold 24 tubes.
A glass stirring rod, about 8 inches long.

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A small retort stand to support the funnels.

A spirit lamp, to contain about 3 oz., provided with a wick and with 5 oz. of spirit in a bottle.

A washing bottle, holding about 1 pint, to be filled at the time of the Examination.

Two pieces of platinum foil, about 2 × 1 inch, and two platinum wires, about 3 inches long.

A mouth blowpipe.

Two or three pieces of hard glass tubing, and of charcoal, for blowpipe experiments.

A bent tube, fitted with a cork, for conveying a gas from one test-tube to another.

A pair of tongs to hold the platinum foil.

A penknife or spatula.

A cloth.

A test-tube brush.

The room in which the Examination is to be held will be opened half an hour before the time, for the purpose of allowing Candidates to unpack and arrange their re-agents and apparatus. Distilled water and matches will be provided for them.

N. B. The attention of Candidates is called to the importance of writing out their analytical notes in a proper manner. The Examiner can judge of their knowledge and work only from these notes, and cannot give any one credit for a complete analysis if any steps or important statements are omitted in the description of it. The account of the examination of each substance should be written out before proceeding to the next, so that the actual experimenting and the recording of experiments may be carried on as far as possible together. Candidates are cautioned against the common practice of wasting their limited time in preliminary random experiments with the blowpipe. They should first discover by a systematic analysis what the bases are and then confirm their conclusions by as many special tests as possible including those made by the blowpipe.

Oxford, February 15, 1884.

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EXAMINERS.

Revising.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. Rev. W. W. Jackson, M.A., Fellow of Exeter College. E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Rudiments of Faith and Religion.	Hon. and Rev. W. H. Fremantle, M.A., Fellow and Tutor of Balliol College. Rev. A. Carr, M.A., Late Fellow of Oriel College. Rev. E. Barber, M.A., Magdalen College. Rev. H. M. Spooner, M.A., late Fellow and Tutor of Magdalen Coll.
Preliminary Subjects (except Arithmetic), and English.	Rev. T. Williams, M.A., late Fellow of Jesus College. Rev. W. Tuckwell, M.A., late Fellow of New College. Rev. C. H. O. Daniel, M.A., Fellow of Worcester College. Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College. Rev. W. Hunt, M.A., Trinity College. Rev. G. F. Lovell, B.D., Vice-Principal of St. Edmund Hall. C. N. Jackson, Esq., M.A., Fellow and Tutor of Hertford College. Rev. R. W. M. Pope, B.D., Lecturer of Worcester College. A. Hassall, Esq., M.A., Trinity College, Tutor of Christ Church. C. L. R. Fletcher, Esq., M.A., All Souls College, Lecturer of Keble College.
Latin and Greek.	Rev. S. J. Hulme, M.A., late Fellow of Wadham College. T. W. Jackson, M.A., Fellow and Tutor of Worcester College. Rev. W. H. Hughes, M.A., Fellow and Tutor of Jesus College. Rev. E. M. Mee, M.A., Fellow and Tutor of Queen's College.
French.	Mons. J. Bué, M.A., Magdalen College, French Teacher in the Taylor Institution. G. Saintsbury, Esq., M.A., Merton College. Mons. A. Manier. W. Little, Esq., M.A., Fellow and Tutor of Corpus Christi Coll.
German.	A. A. Macdonell, Esq., M.A., Corpus Christi College, German Teacher in the Taylor Institution.
Arithmetic and Mathematics.	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. G. Edmundson, M.A., late Fellow of Brasenose College. E. B. Elliott, Esq., M.A., Fellow and Tutor of Queen's College. Rev. J. H. Kirkby, M.A., University College. H. T. Gerrans, Esq., M.A., Fellow and Lecturer of Worcester Coll.
Physics.	A. W. Reinold, Esq., M.A., Christ Church.
Chemistry.	J. Watts, Esq., M.A., Balliol College, Lecturer of Merton College, Aldrichian Demonstrator in Chemistry.
Vegetable Physiology.	C. J. F. Yule, Esq., M.A., Fellow and Tutor of Magdalen College.
Animal Physiology.	F. J. Bell, Esq., M.A., Magdalen College.
Geology and Mineralogy.	E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Drawing.	A. Macdonald, Esq., M.A., Ruskin Teacher of Drawing.
Music.	C. H. Lloyd, Esq., M.A., B.Mus., Christ Church.

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SUPERINTENDING EXAMINERS AT THE LOCAL CENTRES.

Bath	Rev. F. Harrison, M.A., late Fellow of Oriel College.
Berkhamsted	Rev. W. Tuckwell, M.A., late Fellow of New College.
Birmingham.	Rev. R. E. Williams, M.A., late Fellow of Jesus College.
"	Rev. F. H. Curgenven, M.A., late Fellow of Corpus Christi College.
Boston	Rev. A. R. Maddison, M.A., Merton College.
Brighton	E. M. Miller, Esq., M.A., Fellow of Magdalen College.
Bristol	Rev. H. L. Thompson, M.A., late Senior Student and Tutor of Ch. Ch.
Cheltenham	Rev. P. G. Medd, M.A., late Fellow and Tutor of University College.
	Rev. E. Worsley, M.A., late Fellow of Magdalen College.
Crosby	Rev. W. Tuckwell, M.A., New College.
Crystal Palace	Rev. W. C. Stapylton, M.A., late Fellow of Merton College.
Downside....	Rev. W. E. Daniel, M.A., Worcester College.
Kingsbridge .	Rev. E. Harris, M.A., Lincoln College.
Leeds.....	Rev. J. T. B. Landon, M.A., late Fellow of Magdalen College.
Leicester ..	Rev. W. G. Cole, M.A., late Fellow and Tutor of Trinity College.
Lincoln	Rev. J. M. Barrett, M.A., Pembroke College.
Liverpool ..	Rev. J. D. Kelly, M.A., Wadham College.
	R. T. Tidswell, Esq., M.A., Worcester College.
London	Rev. E. Hill, M.A., late Student and Mathematical Lecturer of Ch. Ch.
	Rev. M. S. A. Walrond, M.A., Balliol College.
	Rev. F. R. Ellis, M.A., Trinity College.
Lytham.....	Rev. C. C. Atkinson, M.A., Keble College.
Manchester	Rev. W. E. Buckley, M.A., late Fellow of Brasenose College.
	Rev. J. A. Atkinson, M.A., Exeter College.
Milton Mount	Rev. J. Bond, M.A., St. John's College.
Northleach .	Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College.
Nottingham	R. L. Abbott, Esq., M.A., Tutor of Students who do not belong to any College or Hall.
Oswestry ..	Rev. A. Short, late Fellow of New College.
Oxford	Rev. W. J. Hills, M.A., Jesus College.
Peterborough	H. W. Just, Esq., M.A., Corpus Christi College.
Portsmouth .	Rev. G. W. Jeudwine, M.A., late Fellow of Queen's College.
Preston	Rev. C. P. Roberts, M.A., Trinity College.
	A. Hassall, Esq., M.A., Trinity College, Tutor of Christ Church.
Ramsgate....	Rev. J. W. Nutt, M.A., late Fellow of All Souls College.
Reigate	Rev. A. Isham, M.A., late Fellow of All Souls College.
Rugby	Rev. J. W. Caldicott, D.D., Jesus College.
Salisbury ..	Rev. W. A. Heygate, M.A., New College.
Southampton	Rev. C. Eddy, M.A., late Fellow of Queen's College.
Stratford-on-Avon	Rev. T. Williams, M.A., late Fellow of Jesus College.
Streatham Hill	Rev. J. Troutbeck, M.A., University College.
Swansea	Rev. W. C. Bruce, M.A., University College.
Taunton	Rev. H. F. Seymour, M.A., late Fellow of All Souls College.
Thame	Rev. D. Thomas, M.A., late Fellow of Trinity College.
Truro	Rev. W. P. Chappel, M.A., Worcester College.
Warwick	Rev. A. C. Irvine, M.A., Balliol College.
Watford	Rev. F. B. Lipscomb, M.A., St. Edmund Hall.

Oxford, May 7, 1884.

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EXAMINATION PAPERS.

JUNIOR CANDIDATES.

*I. 1. Reading aloud.

A passage from some English Author.

(The Book selected was 'The Pilgrim's Progress.')

WEDNESDAY, JUNE 11, from 4 to 4.30 P.M.

I. 2. Passage for Dictation.

[The Examiner is requested,

First, to read the following passage to the Candidates in order that they may catch its general purport;

Then, to dictate it very slowly, giving them ample time to write it down, and telling them where the full stops occur;

Lastly, to read it over a third time, that they may have an opportunity of correcting and punctuating what they have written.]

It was not till sunset that he made an excuse for brief absence, and then, mounting a car yoked with mules hired from a mill in the vicinity, hastened with only a few attendants to overtake his soldiers at the appointed spot. In his anxiety to avoid the risk of being encountered and his movements divulged, he left the high road, and soon lost his way in the paths of the country. One after another the torches of his party became extinguished, and he was left in total darkness. It was only by taking a peasant for a guide and alighting from his vehicle that he at last reached his destination.

* The numbers prefixed to the several Papers correspond with the numbers prefixed to the Subjects in the REGULATIONS.

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TUESDAY, JUNE 10, from 11 A.M. to 1 P.M.

I. 3. English Grammar and Composition.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Parse each word in the following sentence:—'Knowing within myself the manner in which this poem has been produced, it is not without a feeling of regret that I make it public.'

2. Paraphrase—

'Our very hopes belied our fears,
Our fears our hopes belied—
We thought her dying when she slept,
And sleeping when she died.'

3. What is meant by—etymology, interjection, rhyme, tautology, metaphor, aspirate?

4. Mention any words in English used only in the plural.

5. Give the past tense and passive participle of—fling, weave, tear, fight, freeze, behold, shake, ride, choose, forsake, grow, eat.

6. Give synonyms for—investigate, ridiculous, hypothesis, resentment, courage, obstinate, temperance, assertion, rogue, eccentric.

7. Write a short Essay on *one* of the following subjects:—

(1) The history of dramatic literature in England.

(2) Government by Party, its advantages and disadvantages.

(3) A description of any well-known building.

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TUESDAY, JUNE 10, from 9 to 11 A.M.

I. 4. Arithmetic.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper.
No credit will be given for any answer, the full working of which is not shewn.]

1. Write a thousand and thirty-three millions seventy thousand two hundred and one in figures; and express in words 909009909.

2. A pit from which 38476 cubic yards of soil had been extracted has had thrown into it 10000 loads of rubbish each containing 101 cubic feet. How many more cubic feet will it hold?

3. Divide 3986544 by 2116; and also 56 tons 6 cwt. 1 qr. 13 lbs. by 321.

4. Reduce 17 miles 3 furlongs 19 poles 4 yards to inches.

5. Simplify as much as possible $\dfrac{5\frac{2}{3}-2\frac{3}{5}}{4\frac{5}{8}\text{ of }\frac{2}{185}}$;
and multiply the sum of ·0083 and ·8003 by 8·003.

6. Express 25 acres as the fraction of $1\frac{1}{2}$ square miles; and find the value of ·06875 of 20*l.*

7. If 27 horses can be bought for 2400*l.* how many can be bought for 1333*l.* 6*s.* 8*d.*?

8. Two rooms contain equal quantities of air. The area of the floor of one of them is 340 square feet and its height 12 feet. Find the area of the floor of the second, whose height is 17 feet.

9. A rectangular court-yard is 100 feet long and 60 broad. Two paths cross it at right angles, one from end to end and the other from side to side. Each of these is 5 feet wide. Find the cost of laying down the remaining area with turf at 6*d.* per square yard.

10. At what rate is 84*l.* 14*s.* the simple interest on 2400*l.* for $1\frac{3}{4}$ years?

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11. If 8 men can reap 16 acres in 3 days working 10 hours a day, in how many days can 3 men reap 64 acres working $10\frac{2}{3}$ hours a day?

12. A property, consisting of 900 acres of land and an amount of stock of exactly the same value, is left to be divided equally among two persons. The first of these persons receives as his share 700 acres and stock to the value of 15000*l.* What is the land worth per acre?

MONDAY JUNE 9, from 2 to 3 P.M.

II. 1 (*a*). The Book of Joshua, and Judges i-xviii.

1. Describe fully the crossing of the river Jordan.

2. What events happened at Gilgal, Makkedah, Mount Ebal, and En-hakkore? Give the meaning of the first and last names.

3. Explain the following passages:—

(*a*) 'He taught the men of Succoth.'

(*b*) 'Give me a blessing: for thou hast given me a south land; give me also springs of water.'

(*c*) 'If he be a god, let him plead for himself.'

4. Give a short account of Jephthah.

5. State in order the steps by which the conquest of Canaan was accomplished under Joshua. What places were still left in possession of the original inhabitants?

6. What and where were the cities of Refuge, and why were they appointed?

MONDAY, JUNE 9, from 3 to 4 P.M.

II. 1 (*b*). The Gospel according to St. Mark.

1. Give the names of the twelve Apostles, with their surnames.

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2. Explain and give the context of the following passages:—

(*a*) 'A prophet is not without honour, but in his own country.'

(*b*) 'He that is not against us is on our part.'

(*c*) 'He is not the God of the dead, but the God of the living.'

3. What Parable is peculiar to St. Mark? Write it out, and give its full meaning.

4. Compare our Lord's treatment of individuals as shewn in the cases of:—

(*a*) The woman with the issue of blood.

(*b*) The Syrophenician woman.

(*c*) The deaf and dumb man.

5. Give a short description of our Lord's sufferings from the Agony in the Garden to His Crucifixion.

6. Translate and explain:—

(*a*) *Καὶ ἔλεγεν αὐτοῖς, Μήτι ὁ λύχνος ἔρχεται, ἵνα ὑπὸ τὸν μόδιον τεθῇ ἢ ὑπὸ τὴν κλίνην, οὐχ ἵνα ἐπὶ τὴν λυχνίαν τεθῇ; Οὐ γάρ ἐστί τι κρυπτὸν, ὃ ἐὰν μὴ φανερωθῇ οὐδὲ ἐγένετο ἀπόκρυφον, ἀλλ' ἵνα εἰς φανερὸν ἔλθῃ.*

(*b*) *Ἀπὸ δὲ τῆς συκῆς μάθετε τὴν παραβολήν· ὅταν αὐτῆς ἤδη ὁ κλάδος ἁπαλὸς γένηται, καὶ ἐκφυῇ τὰ φύλλα, γινώσκετε ὅτι ἐγγὺς τὸ θέρος ἐστίν· οὕτω καὶ ὑμεῖς, ὅταν ταῦτα ἴδητε γινόμενα, γινώσκετε ὅτι ἐγγύς ἐστιν ἐπὶ θύραις. Ἀμὴν λέγω ὑμῖν, ὅτι οὐ μὴ παρέλθῃ ἡ γενεὰ αὕτη, μέχρις οὗ πάντα ταῦτα γένηται.*

(*c*) *Τὸ βδέλυγμα τῆς ἐρημώσεως.*

MONDAY, JUNE 9, from 4 to 5 P.M.

II. 1 (*c*). **Acts I—XII.**

1. Who was the author of the Acts of the Apostles? Give reasons for your answer.

2. Draw out the argument of St. Stephen's speech before the Council.

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3. 'Thou shalt not suffer thy Holy One to see corruption.' Where do these words occur in the Old Testament, and with what meaning? Where are they quoted in the Acts and for what purpose?

4. Give short notices of the following places and persons and of the incidents connected with them:—Antioch, Cyrene, Agabus, John Mark, Judas of Galilee.

5. Write a short account of Philip the deacon.

6. Mention the context of the following, and explain briefly:—

(*a*) The Beautiful Gate of the Temple.

(*b*) Thy prayers and thine alms are come up for a memorial before God.

(*c*) Their country was nourished by the King's country.

(*d*) It is not reason that we should leave the word of God and serve tables.

7. Translate:—

Θεωροῦντες δὲ τὴν τοῦ Πέτρου παρρησίαν καὶ Ἰωάννου καὶ καταλαβόμενοι ὅτι ἄνθρωποι ἀγράμματοί εἰσι καὶ ἰδιῶται, ἐθαύμαζον, ἐπεγίνωσκόν τε αὐτοὺς ὅτι σὺν τῷ Ἰησοῦ ἦσαν· τὸν δὲ ἄνθρωπον βλέποντες σὺν αὐτοῖς ἑστῶτα τὸν τεθεραπευμένον, οὐδὲν εἶχον ἀντειπεῖν. κελεύσαντες δὲ αὐτοὺς ἔξω τοῦ συνεδρίου ἀπελθεῖν, συνέβαλον πρὸς ἀλλήλους, λέγοντες "Τί ποιήσομεν τοῖς ἀνθρώποις τούτοις; ὅτι μὲν γὰρ γνωστὸν σημεῖον γέγονε δι' αὐτῶν, πᾶσι τοῖς κατοικοῦσιν Ἱερουσάλημ φανερόν, καὶ οὐ δυνάμεθα ἀρνήσασθαι. ἀλλ' ἵνα μὴ ἐπὶ πλεῖον διανεμηθῇ εἰς τὸν λαόν, ἀπειλῇ ἀπειλησώμεθα αὐτοῖς μηκέτι λαλεῖν ἐπὶ τῷ ὀνόματι τούτῳ μηδενὶ ἀνθρώπων."

MONDAY, JUNE 9, from 6 to 7 P.M.

II. 1 (*d*). Catechism.

1. State the meanings of the following words and phrases:—Catechism, Catholick, spiritual pastors, children of wrath, generally necessary.

2. Illustrate from Scripture the expressions:—member of Christ, descended into hell.

3. Give the original meaning of the third Commandment in the Old Testament and the ways in which it may be applied to our thoughts and conduct.

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4. Write down that part of 'Thy duty towards thy Neighbour' which explains the fifth Commandment.

5. 'A means whereby we receive the same, and a pledge to assure us thereof.' What are meant by 'the same' and by 'thereof'? Illustrate the word *pledge*.

6. Why is the Apostles' Creed so called? What other names are there for a Creed? What other Creeds are there in the Prayer Book? Explain the titles of them.

WEDNESDAY, JUNE 11, from 2 to 4 P.M.

II. 2 (*a*). English History.

[N.B. Candidates are requested to answer questions out of each division of this paper, and to give dates wherever they are able.]

1. Enumerate the chief rebellions of the baronage against the first five kings after the Norman Conquest. At what objects did the rebels usually aim?

2. What was the influence on the political and social life of England of

The Crusades;
or The 100 years war with France;
or The reign of William III?

3. Whence, and through whom, was Henry VII's claim to the throne derived? What other descendants of Edward III were alive in 1485?

4. Write a life with dates of *any one* of the following:—Archbishop Anselm, Richard Neville, Earl of Warwick, Cardinal Wolsey, The first Earl of Shaftesbury, Sir Robert Walpole, Edmund Burke.

5. What were the points in dispute between Charles I and his subjects in 1642? Enumerate with dates the principal battles of the Civil War.

6. Give some account of the prose works of Milton, Bacon, and Hooker, and estimate their respective merits of style.

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7. What important changes in the history of India were brought about *either* by the Governor-generalship of Warren Hastings, *or* by Pitt's India bill?

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8. What do you know of Grattan, Lord Rockingham, Dundas, Lord Shelburne, George Grenville?

9. Trace the history of the quarrel between England and her North American colonies from George Grenville's ministry to the Declaration of Independence.

10. Who were the chief leaders of the opposition to Pitt after the outbreak of the French war in 1793, and how did they act?

TUESDAY, JUNE 10, from 5.30 to 7.30 P.M.

II. 2 (*b*). **Shakspeare's Macbeth.**

1. Write out in *Prose* the speech of *Lennox* beginning 'My former speeches have but hit your thoughts,' and ending 'Where he bestows himself?'

2. Give the meaning and (where possible) the derivation of:—minion, hurlyburly, gin, coign, weird, dollar, groom, limbec, sore, sag, to boot, maw, farrow, gulf, ecstasy.

3. Sketch briefly the political state of Britain at the time with which this play deals.

4. Write short notes on the following phrases:—

(*a*) Kerns and gallowglasses.

(*b*) The insane root which takes the reason prisoner.

(*c*) Sleep, that knits up the ravelled sleave of care.

(*d*) Thou hast harped my fear aright.

(*e*) He wants the natural touch.

(*f*) The title is affeer'd.

(*g*) Trebled sceptres.

(*h*) The valued file Distinguishes the slow, the swift, the subtle.

5. Ought this play to be classed among the Tragedies or Histories of Shakespeare? Give reasons for your answer.

6. Mention any unusual, irregular, or antiquated words or phrases in this play; and state the connexion in which they occur.

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TUESDAY, JUNE 10, from 2 to 4 P.M.

II. 2 (*c*). Geography.

1. Explain the terms—watershed, isothermal line, equinoctial gale, typhoon, antarctic, tributaries, fiord, the Harmattan, plateau, isthmus.

2. Where are situated Mount Shasta, the Ballon d'Alsace, Lake Titicaca, the Zambezi, Ajaccio, Bokhara, Sennaar, Jan Mayen, Stettin?

3. Name and give the position of the chief volcanic groups or isolated volcanic mountains.

4. Name the chief heads of English foreign trade (exports and imports), and give the sources of our chief supplies of timber, grain and oils.

5. What lakes drain into the Po, and what into the St. Lawrence? Illustrate by sketch maps.

6. In the accompanying map of Ireland (1) Draw the ranges of Slieve Bloom, Galtee, Muskerry, and Knockmeledown hills. (2) Trace the Shannon, Boyne, Blackwater, Liffey, Suir, and Bann. (3) Mark with asterisks the position of Tralee, Cork, Dublin, Belfast, Bantry, Drogheda, Wexford, and Londonderry; and in every case insert the names.

7. Enumerate in order the countries, headlands, and straits you would pass by or through in a voyage from Canton to London through the Suez Canal.

8. Draw a sketch map of the basin of the Thames and of that of the Humber with their several feeders.

9. Distinguish between an Empire, a Kingdom, and a Republic, and assign to its proper class each of the chief European countries.

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WEDNESDAY, JUNE 11, from 9 to 10.30 A.M.

II. 3. Latin.

[A Second Latin Paper will be given to you at 10.30 A.M.]

I.

CAESAR, *Bell. Gall.* V. VI; VIRGIL, *Æn.* VI.

[Candidates may not take both Caesar and Virgil.]

For all Candidates.

1. Translate into English:—

Oppidani autem, simul Caesar castra contra oppidum posuit, discordare coeperunt usque eo, ut clamor in castra nostra perveniret fere, inter Cassianos et inter Pompeianos. Legio tertia decima oppidum defendere coepit: nam, cum jam repugnarent, turres ex parte et murum occuparunt. Denique legatos ad Caesarem mittunt, ut sibi legiones subsidio intromitteret. Hoc cum animadverterent homines fugitivi, oppidum incendere coeperunt. Qui superati a nostris sunt interfecti, hominum millia viginti duo, praeterquam extra murum qui perierunt. Ita Caesar oppido potitur. Dum hic detinetur, ex proelio quos circummunitos superius demonstravimus, eruptionem fecerunt, et, bene multis interfectis, in oppidum sunt redacti.

For those who offer Caesar.

2. Translate into English:—

(*a*) Quibus omnibus rebus hostes invitati copias traducunt aciemque iniquo loco constituunt, nostris vero etiam de vallo deductis propius accedunt et tela intra munitionem ex omnibus partibus coniciunt praeconibusque circummissis pronuntiari iubent, seu quis Gallus seu Romanus velit ante horam tertiam ad se transire, sine periculo licere; post id tempus non fore potestatem; ac sic nostros contempserunt, ut obstructis in speciem portis singulis ordinibus cespitum, quod ea non posse introrumpere videbantur, alii vallum manu scindere, alii fossas complere inciperent.

(*b*) Quibus ita est interdictum, hi numero impiorum ac sceleratorum habentur, his omnes decedunt, aditum sermonemque defugiunt, ne quid ex contagione incommodi accipiant, neque his petentibus ius redditur neque honos ullus communicatur. His autem omnibus druidibus praeest unus, qui summam inter eos habet auctoritatem. Hoc mortuo aut si qui ex reli-

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quis excellit dignitate, succedit, aut si sunt plures pares, suffragio druidum, nonnunquam etiam armis de principatu contendunt.

3. Give the meaning of—annotinae naves, conventus, testudo, tragula, amentum, clientela, agmen novissimum, cibarii, alces, cuneus.

For those who offer Virgil.

4. Translate into English :—

(*a*) Ergo alte vestiga oculis, et rite repertum
Carpe manu; namque ipse volens facilisque sequetur,
Si te fata vocant; aliter, non viribus ullis
Vincere, nec duro poteris convellere ferro.
Praeterea iacet exanimum tibi corpus amici,
Heu nescis! totamque incestat funere classem;
Dum consulta petis, nostroque in limine pendis,
Sedibus hunc refer ante suis, et conde sepulcro.
Duc nigras pecudes; ea prima piacula sunto.

(*b*) Porta adversa, ingens, solidoque adamante columnae:
Vis ut nulla virum, non ipsi exscindere ferro
Coelicolae valeant. Stat ferrea turris ad auras;
Tisiphoneque sedens, palla succincta cruenta,
Vestibulum exsomnis servat noctesque diesque.
Hinc exaudiri gemitus, et saeva sonare
Verbera; tum stridor ferri, tractaeque catenae.
Constitit Aeneas, strepitumque exterritus hausit.
Quae scelerum facies? o virgo, effare; quibusve
Urgentur poenis? qui tantus plangor ad auras?

5. Translate and give short explanations of—

(1) Hectora circum et lituo pugnas insignis obibat et hasta.

(2) Forma tricorporis umbrae.

(3) Casta licet patrui servet Proserpina limen.

(4) Quum fatalis equus saltu super ardua venit
Pergama, et armatum peditem gravis attulit alvo.

(5) Quisque suos patimur Manes.

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WEDNESDAY, JUNE 11, from 10.30 A.M. to 12.

II. 3. Latin.

II.

1. Translate into Latin:—

And although the time of the year would not suffer him to finish the war, yet he thought it would be of use if he went only to view the island, to understand the character of the inhabitants and to know their coast and their ports, whereof the Gauls were altogether ignorant: for seldom any man but merchants did travel unto them. Neither had these discovered any thing but the sea coast and those regions which were opposite unto Gallia. And therefore calling the merchants together, he asked them of what size the island was, what nations inhabited it, and what havens they had fit to receive great ships of war.

2. Translate into Latin:—

(*a*) The death of one man caused the loss of the kingdom.

(*b*) Acting on this information he left Rome with all speed.

(*c*) He returned surrounded by friends and at the height of his glory.

(*d*) He is not easily persuaded to leave home.

3. Parse—conspexerint, contemplator, memento, moribundus, regerit, perculisti, mansere.

4. Give the superlatives of debilis and providus; comparatives of nequam and diu; perfects of metior, perpetior, lino, malo, adipiscor, findo; genitive plural of nubes, mare, senex, prudens, domus.

5. Turn into *Oratio Obliqua*:—

Ante portas adstant hostes: arma capite, et urbem munite: nuntios Romam mittamus qui auxilium orent.

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SATURDAY, JUNE 14, from 9 to 10.30 A.M.

II. 4. Greek.

[A Second Greek Paper will be given to you at 10.30 A.M.]

I.

HOMER, *Od.* ii. XENOPHON, *Cyrop.* v.

[N. B. Candidates may not take both Xenophon and Homer.]

For all Candidates.

1. Translate :—

Ὁ δὲ Κύκνος ἕτερόν τι κατ' αὐτοῦ ἐμηχανήσατο. ἐγένοντο γὰρ ἐν τῇ γῇ ταύτῃ γῦπες, ὄρνιθες δεινοτάτοι, καὶ πολλοὺς ἀπέκτεινον ἀνθρώπους. τούτους ἐκέλευσε συλλαβεῖν ζῶντας καὶ ἀπενεγκεῖν πρὸς ἑαυτόν. ἀποροῦντος δὲ τοῦ Φυλίου, ἀετὸς ἡρπακὼς λαγωὸν ἡμιθνῆτα, τύχῃ τινὶ, κατέβαλε. ὁ δὲ Φύλιος ἀναῤῥήξας τὸν λαγωὸν, καὶ τοῦ αἵματος ἑαυτὸν ἀναπλήσας, ἐπὶ τῆς γῆς ἔκειτο. οἱ μὲν οὖν ὄρνιθες ἐν οὐ πολλῷ χρόνῳ καταπτάμενοι ὡς ἐπὶ νεκρὸν ὥρμησαν· ὁ δὲ Φύλιος λαβόμενος τῶν ποδῶν δύο ἀπήνεγκε πρὸς τὸν Κύκνον.

For those who offer Homer.

2. Translate :—

(*a*) *Οἱ δ' εἰς ἡμέτερον πωλεύμενοι ἤματα πάντα,*
βοῦς ἱερεύοντες καὶ ὄϊς καὶ πίονας αἶγας,
εἰλαπινάζουσιν πίνουσί τε αἴθοπα οἶνον
μαψιδίως· τὰ δὲ πολλὰ κατάνεται. οὐ γὰρ ἔπ' ἀνὴρ
οἷος Ὀδυσσεὺς ἔσκεν, ἀρὴν ἀπὸ οἴκου ἀμῦναι.
ἡμεῖς δ' οὔ νύ τι τοῖοι ἀμυνέμεν· ἦ καὶ ἔπειτα
λευγαλέοι τ' ἐσόμεσθα καὶ οὐ δεδαηκότες ἀλκήν.
ἦ τ' ἂν ἀμυναίμην, εἴ μοι δύναμίς γε παρείη.
οὐ γὰρ ἔτ' ἀνσχετὰ ἔργα τετεύχαται, οὐδ' ἔτι καλῶς
οἶκος ἐμὸς διόλωλε· νεμεσσήθητε καὶ αὐτοὶ,
ἄλλους τ' αἰδέσθητε περικτίονας ἀνθρώπους.

(*b*) *Μαῖ', ἄγε δή μοι οἶνον ἐν ἀμφιφορεῦσιν ἄφυσσον*
ἡδὺν, ὅτις μετὰ τὸν λαρώτατος ὃν σὺ φυλάσσεις,
κεῖνον ὀϊομένη τὸν κάμμορον, εἴ ποθεν ἔλθοι
διογενὴς Ὀδυσεὺς θάνατον καὶ κῆρας ἀλύξας.
δώδεκα δ' ἔμπλησον καὶ πώμασιν ἄρσον ἅπαντας.
ἐν δέ μοι ἄλφιτα χεῦον ἐϋρραφέεσσι δοροῖσιν·
εἴκοσι δ' ἔστω μέτρα μυληφάτου ἀλφίτου ἀκτῆς.
αὐτὴ δ' οἴη ἴσθι· τὰ δ' ἀθρόα πάντα τετύχθω·
ἐσπέριος γὰρ ἐγὼν αἱρήσομαι, ὁππότε κεν δὴ
μήτηρ εἰς ὑπερῷ' ἀναβῇ κοίτου τε μέδηται.

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3. Translate, explaining the words underlined:—

(*a*) Μητέρ' ἐὴν ἐς πατρὸς ἀνιογέτω ἀπονέεσθαι.

(*b*) Δύσετο δ' ἠέλιος σκιόωντό τε πᾶσαι ἀγυῖαι.

(*c*) Τοῖσιν δ' ἴκμενον οὖρον ἴει γλαυκῶπις Ἀθήνη.

and give the derivation of—ἐλάτινος, πιφαύσκομαι, ὁμηγερέες, κρητήρ, ἄσχετος.

For those who offer Xenophon.

4. Translate:—

(*a*) Ἀλλ' ἐγὼ σοὶ μὲν καὶ τότε ὑπεσχόμην ἀψευδοῦντός σου τιμωρήσειν εἰς δύναμιν· νῦν δὲ ὅτε σε ἀληθεύοντα ὁρῶ, ἤδη ὀφείλω τὴν ὑπόσχεσιν· καὶ ταύτῃ ὑπισχνοῦμαι τὰ αὐτὰ ταῦτα σὺν θεοῖς ποιήσειν. καὶ τὰ μὲν χρήματα ταῦτα, ἔφη, ἐγὼ μὲν δέχομαι, δίδωμι δ' αὐτὰ τῇ παιδὶ ταύτῃ κἀκείνῳ ὃς ἂν γήμῃ αὐτήν. ἓν δὲ δῶρον ἄπειμι ἔχων παρὰ σοῦ ἀνθ' οὗ οὐδ' ἂν τὰ ἐν Βαβυλῶνι, [εἰ καὶ πλεῖστά ἐστιν,] οὐδὲ τὰ πανταχοῦ [ἀντὶ τούτου οὗ σύ μοι δεδώρησαι] ἥδιον ἂν ἔχων ἀπέλθοιμι.

(*b*) Τί γὰρ ἄν, εἴ τις κύνας, οὓς σὺ τρέφεις φυλακῆς ἕνεκα σαυτοῦ τε καὶ τῶν σῶν, τούτους θεραπεύων γνωριμωτέρους ἑαυτῷ ἢ σοὶ ποιήσειεν, ἆρ' ἄν σε εὐφράναι τούτῳ τῷ θεραπεύματι; εἰ δὲ τοῦτό σοι δοκεῖ μικρὸν εἶναι, ἐκεῖνο κατανόησον· εἴ τις τοὺς σὲ θεραπεύοντας, οὓς σὺ καὶ φρουρᾶς καὶ στρατείας ἕνεκα κέκτησαι, τούτους οὕτω διατιθείη ὥστ' ἐκείνου μᾶλλον ἢ σοῦ βούλεσθαι εἶναι, ἆρ' ἂν ἀντὶ ταύτης τῆς εὐεργεσίας χάριν αὐτῷ εἰδείης;

5. Translate, with notes on words and phrases underlined:—

(*a*) Ἡλίθιον δὲ καὶ τοῦτ' ἐδόκει εἶναι αὐτῷ τὸ ὁπότε τι βούλοιτο πραχθῆναι, οὕτω προστάττειν ὥσπερ ἐν οἴκῳ ἔνιοι δεσπόται προστάττουσιν, Ἴτω τις ἐφ' ὕδωρ, Ξύλα τις σχισάτω· οὕτω γὰρ ταττομένων εἰς ἀλλήλους τε ὁρᾶν πάντες ἐδόκουν αὐτῷ καὶ οὐδεὶς περαίνειν τὸ προσταχθὲν.

(*b*) Ἡνίκα δ' ἦν ἐν μέσῳ νυκτῶν, ἐσήμηνε τῷ κέρατι.

(*c*) Ἐννοήσας δ' ὅτι οἱ πρὸς αὐτὸν ἀφεστηκότες, ὄντες πλήσιον Βαβυλῶνος, κακῶς πείσονται ἂν μὴ αὐτὸς ἀεὶ παρῇ, οὕτως . . . καὶ τούτους ἐκέλευε λεγειν τῷ Ἀσσυρίῳ, καὶ αὐτὸς κήρυκα ἔπεμψε πρὸς αὐτόν, λέγοντα ταῦτα ὅτι ἕτοιμος εἴη τοὺς ἐργαζομένους τὴν γῆν ἐᾶν καὶ μὴ ἀδικεῖν.

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SATURDAY, JUNE 14, from 10.30 A.M. to 12.

II. 4. Greek.

II.

1. Translate into Greek:—

(*a*) You have manifestly inflicted a great wrong on the city and on each of the citizens.

(*b*) If we had made peace, we should not now have been paying so much.

(*c*) This man hopes to remain here one day.

2. Distinguish between—*οἰκέω* and *οἰκίζω*, *δουλεύω* and *δουλόω*, *πάρα* and *παρά*, *ποῦ* and *ὅπου*, *πόθεν* and *ποθέν*.

3. If you offer Homer:—

Parse—*φάνη*, *ἐκέκαστο*, *εἶπεσκε*, *ἀρηρότες*, *ἤγερθεν*, *ὑπέδεκτο*, *συνάρασθαι*, *ἥξοι*, *θάτερον*, *γῆμαι*.

or if you offer Xenophon:—

Parse—*ἀξιοῦν*, *εἶδον*, *σημανεῖ*, *παρεθῆναι*, *αὕτη*, *λελῃσμένος*, *ἵστω*, *σχές*, *δέῃ*, *χρεών*.

4. Write down the 3rd person singular of all aorists and perfects in use, in the indicative and optative moods, in all voices, of—*ἐκτείνω*, *πάσχω*, *βάλλω*, *χέω*. Give the cognate moods (without conjugating) of *εἷλον* and *εἶμι*; and give the dative singular and plural of—*γέρων*, *χαρίεις*, *Ἕλλην*, *γραῦς*, *οὖς*.

5. Compare—*σαφής*, *εὖ*, *αἰσχρῶς*, *ἡδύς*, *μικρός*, *γέρων*, and distinguish between *πότερος*, *πόσος*, *τοιοῦτος*—*δεῦρο*, *ἐνταῦθα*, *ἐκεῖσε*—*πότε*, *πῶς*, *πώ*—*ἕκαστος*, *ἑκάτερος*—*παρὰ τούτου*, *παρὰ τούτῳ*, *παρὰ τοῦτον*. What is the difference (*a*) in meaning and (*b*) in construction between the active and the middle of *ἵστημι*, *τιμωρέω*, and *διδάσκω*?

THURSDAY, JUNE 12, from 9 to 10.30 A.M.

II. 5. French.

[A second French paper will be given to you at 10.30 A.M.]

I.

1. Translate into English:—

M. Edmundo de Amicis, un cœur italien très français et un littérateur du talent le plus rare, a écrit, en soldat et en poète, des pages très émues sur cette partie de la vie de Déroulède, son ami. Déroulède, en campagne, devait chanter les turcos,

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ces braves gens à face noire. Il avait un turco qui s'était pris pour lui d'une affection de chien dévoué. Un soir de bataille, le jeune officier, harassé, avait choisi, pour dormir sur la terre brune, une planche trouvée dans quelque ferme. Le lendemain, en se relevant dans le froid de l'aube, il dit: 'J'ai bien dormi. Elle était bonne, cette planche!' Son turco était là, écoutant. Le soir, après une écrasante journée de marche, au moment où les soldats cherchaient le sommeil au coin d'un bois, Déroulède vit le turco apportant, avec un bon sourire éclairant sa chair noire de l'éclat de ses dents blanches, la planche, que, la veille, le poète avait prise pour lit.—La voici, *ta* planche, mon lieutenant! *Tu* as dit comme ça qu'elle est bonne!

2. Translate into English:—

(*a*) Nous ne sommes qu'un sang et qu'un peuple en deux villes:
Pourquoi nous déchirer par des guerres civiles,
Où la mort des vaincus affaiblit les vainqueurs,
Et le plus beau triomphe est arrosé de pleurs?
Nos ennemis communs attendent avec joie
Qu'un des partis défait leur donne l'autre en proie,
Lassé, demi-rompu, vainqueur, mais, pour tout fruit,
Dénué d'un secours par lui-même détruit.

(*b*) Ne cherche plus ta sœur où tu l'avais laissée;
Tu ne revois en moi qu'une amante offensée,
Qui, comme une furie attachée à tes pas,
Te veut incessamment reprocher son trépas.
Tigre altéré de sang, qui me défends les larmes,
Qui veux que dans sa mort je trouve encor des charmes,
Et que, jusques au ciel élevant tes exploits,
Moi-même je le tue une seconde fois!
Puissent tant de malheurs accompagner ta vie,
Que tu tombes au point de me porter envie!
Et toi bientôt souiller par quelque lâcheté
Cette gloire si chère à ta brutalité!

3. Translate and explain, giving the name of the speaker:—

(*a*) Avez-vous su l'état qu'on fait de Curiace,
Ma sœur?

(*b*) Ce n'est qu'en fuyant qu'on pare de tels coups.

(*c*) C'est là donc cette paix que j'ai tant souhaitée!

(*d*) Je sais . . . .
Que les dieux t'ont promis l'empire de la terre,
Et que tu n'en peux voir l'effet que par la guerre.

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THURSDAY, JUNE 12, from 10.30 A.M. to 12.

II. 5. French.

II.

1. Turn into French:—

(*a*) My vanity, or my kindness, makes me flatter myself, that you would rather hear of me than of those whom I have mentioned; but of myself I have very little which I care to tell. Last winter I went down to my native town, where I found the streets much narrower and shorter than I thought I had left them; inhabited by a new race of people, to whom I was very little known. My playfellows were grown old, and forced me to suspect that I was no longer young. My only remaining friend has changed his principles, and was become the tool of the predominant faction.

My daughter-in-law, from whom I expected most, and whom I met with sincere benevolence, has lost the beauty and gaiety of youth, without having gained much of the wisdom of age.

(*b*) Is the fire lit in the drawing-room?—Yes; it burns well. Do you want any coals? No, but a log of wood would be of use.—I shall send you some planks and sticks.—Thank you; please select the driest.

2. Give the plural of—détail, rival, bétail, ciel, genou, niveau, ciel-de-lit, feu-de-joie.

3. Give the feminine of—pareil, favori, nouveau, vert, inspecteur, sujet, faux, sain, gentil, actif, délicieux, mineur.

4. Turn into French:—

We give fruit and flowers.
Everybody's friend is no friend of mine.
Two thousand pounds and eighteen shillings.
Six is the fourth of twenty-four.
I told him so.
Have you informed him of it?
Leave me my share and take yours.
Which of these stories does she believe?
We like this town and will remain there.
Each season has its beauty.

5. Derive adverbs from long, bref, doux, and nouns from blanc, long, haut.

6. Give the 3rd person singular, future tense of—aller, courir, cueillir, mourir, tenir, asseoir, falloir, mouvoir, voir, vouloir, prévoir, valoir.

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FRIDAY, JUNE 13, from 9 to 10.30 A.M.

II. 6. German.

I.

A second German Paper will be given to you at 10.30 a.m.

1. Translate into English:—

Die Stadt Caracas hatte schon in früheren Jahren heftige Erschütterungen erlitten. Die Einwohner der Stadt lebten in Sicherheit dahin; aber im December 1811 sollten sie aus ihrer Sorglosigkeit durch einen Erdstoss von beträchtlicher Heftigkeit aufgeschreckt werden. Drei volle Monate gingen hin, ohne dass eine neue Erschütterung erfolgt wäre. Nur eine ausserordentliche Trockenheit und Dürre herrschten seit dieser Zeit, und einige Meilen um Caracas herum fiel während der Zeit kein Tropfen Regen. Bei ruhiger Luft und wolkenlosem Himmel stieg die Sonne am grünen Donnerstag, den 26 März 1812 über Caracas empor; aber die Stadt sollte den Untergang derselben nicht mehr sehen. Das Volk, welches am Morgen noch zu den Gotteshäusern geeilt war, ahnte nicht das schreckliche und nahe Ende, als um 4 Uhr Nachmittags plötzlich die an diesem Tage verstummten Glocken ertönten. Es war Gottes, nicht Menschen Hand, die sie zum Grabgeläute der ganzen Stadt ertönen liess. Eine 10 bis 12 Secunden lange Erschütterung schreckte das Volk auf.

2. Translate into English:—

(*a*) Auf deinem Herzen drückt ein still Gebresten,
Vertrau' es mir; ich bin dein treues Weib,
Und meine Hälfte fordr' ich deines Grams.
Was kann dein Herz beklemmen, sag' es mir.
Gesegnet ist dein Fleiss, dein Glückstand blüht,
Voll sind die Scheunen, und der Rinder Schaaren,
Der glatten Pferde wohlgenährte Zucht
Ist von den Bergen glücklich heimgebracht
Zur Winterung in den bequemen Ställen.

(*b*) Die schnellen Herrscher sind's, die kurz regieren.
—Wenn sich der Föhn erhebt aus seinen Schlünden,
Löscht man die Feuer aus, die Schiffe suchen
Eilends den Hafen, und der mächt'ge Geist
Geht ohne Schaden, spurlos, über die Erde.
Ein jeder lebe still bei sich daheim;
Dem Friedlichen gewährt man gern den Frieden.

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(*c*) Hört was mir Gott ins Herz gibt Eidgenossen!
Wir stehen hier statt einer Landsgemeinde
Und können gelten für ein ganzes Volk.
So lasst uns tagen nach den alten Bräuchen
Des Lands, wie wir's in ruhigen Zeiten pflegen;
Was ungesetzlich ist in der Versammlung,
Entschuldige die Noth der Zeit.

FRIDAY, JUNE 13, from 10.30 A.M. to 12.

II. 6. German.

II.

1. Translate into German:—

(*a*) The young man, on hearing the news, said that he could not believe it, because it was too good to be true.

(*b*) The general, after crossing the river, had the bridge broken up, in order to prevent the hostile army from following him on his march.

(*c*) It was not till a quarter to three that my friend called for (abholen) me, when we went for a walk in the country for three hours.

2. Give the 1st and 2nd person singular and plural present and perfect indicative and the past participle of—beklemmen, heimgebracht, erhebt, löscht, gelten, lasst.

3. Write down the gender and the nominative and genitive singular of—Scheunen, Rinder, Ställen, Schlünden, Bräuchen, Zeiten; and the nom. plur. of Geist, Schaden, Schatten, Land, Gott, Versammlung.

4. How do you translate—in London; in England; I am going to Paris, to my friend; the battle of Leipzig; the battle of the Alma?

5. Decline—mein and derselbe in the masc., fem., neut., singular and plural.

6. Frame short sentences shewing the difference between the conjunctions aber and sondern—wenn and als—doch and noch—denn and dann.

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THURSDAY, JUNE 12, from 2 to 4.30 P.M.

II. 7. Mathematics.

Algebra.

[**N.B. No credit will be given for any answer, the full working of which is not shewn.**]

1. Find the value of

$$(2a+b)(a-b)+(2b+c)(b-c)+(2c+a)(c-a)$$

when $$a=1,\ b=2,\ c=-3.$$

2. Divide

$$21x^5-2x^4-70x^3-23x^2+33x+27 \quad \text{by} \quad 7x^2+4x-9.$$

3. Find the highest common divisor of

$$x^4-2x^3+4x^2-6x+3 \quad \text{and} \quad x^4-2x^3-2x^2+6x-3;$$

and the lowest common multiple of

$$3a^2x^3,\quad 5ax^4,\quad 15a^2x^3,\quad \text{and}\quad 35a^4.$$

4. Simplify

(1) $$\frac{2}{a+2x}-\frac{1}{a-2x}+\frac{x(3a+2x)}{a(a^2-4x^2)};$$

(2) $$\left(\frac{x}{y}-\frac{y}{x}\right)+\left(\frac{1}{x-y}-\frac{1}{x+y}\right);$$

(3) $$\frac{1}{1+\dfrac{1}{x-1}}+\frac{1}{1-\dfrac{1}{x+1}}.$$

5. Solve the equations:

(1) $$\frac{x+1}{3}+\frac{5-2x}{4}-\frac{2+5x}{2}+\frac{5-x}{3}=0;$$

(2) $$x=9-\frac{y}{2},\quad y=11+\frac{x}{3}.$$

6. The income of A is $\frac{3}{2}$ that of B; they each save 100*l.* a year; and A's expenditure is $\frac{5}{3}$ B's; find their incomes.

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7. Solve the equations:

(1) $\frac{x}{x+1} + \frac{x+1}{x} = 2\frac{1}{30}$;

(2) $\frac{1+a}{1-ax} + \frac{1-a}{1+ax} = 1$;

(3) $\left.\begin{array}{l} x+2y = 7 \\ x^2+2y^2 = 17 \end{array}\right\}$.

8. The length of a rectangular area exceeds its breadth by 9 yards, and the area is 1620 square yards; what are the dimensions?

9. Sum the series:

(1) $2\frac{1}{2}+3\frac{3}{4}+5+$&c. to 10 terms;

(2) $3\frac{3}{4}+1\frac{1}{4}+\frac{5}{12}+$&c. to 6 terms, and to infinity.

10. The sum of the first and sixth terms of an arithmetical series is 35; and the excess of the fifth term above the second is 15: find the series.

11. If $a : b :: b : c$, prove that

(1) $a^2+b^2 : a^2-b^2 :: a+c : a-c$;

(2) $a(a-1) : b^2-c :: b^2-a : c(c-1)$.

12. Find four numbers, in geometrical progression, such the sum of the first and the last is 27; and the sum of the other two is 18.

FRIDAY, JUNE 13, from 2 to 4.30 P.M.

II. 7. Mathematics.

Euclid.

1. Define a plane superficies, a circle, a gnomon, parallel straight lines.

2. On the same base, and on the same side of it, there cannot be two triangles having their sides which are terminated at one extremity of the base equal to one another, and likewise those which are terminated at the other extremity equal.

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3. If from the ends of a side of a triangle there be drawn two straight lines to a point within the triangle, these shall be less than the other two sides of the triangle, but shall contain a greater angle.

4. If two triangles have two angles of the one equal to two angles of the other, each to each, and one side equal to one side, namely, either the sides adjacent to the equal angles or sides which are opposite to equal angles in each, then shall the other sides be equal, each to each, and also the third angle of the one equal to the third angle of the other.

5. If a side of any triangle be produced, the exterior angle is equal to the two interior and opposite angles; and the three interior angles of every triangle are together equal to two right angles.

6. If a straight line be bisected and produced to any point, the rectangle contained by the whole line thus produced and the part of it produced, together with the square on half the line bisected, is equal to the square on the straight line which is made up of the half and the part produced.

7. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts may be equal to the square on the other part.

8. The opposite angles of any quadrilateral figure inscribed in a circle are together equal to two right angles.

9. Describe an isosceles triangle, having each of the angles at the base double of the third angle.

Shew that you have described two such triangles.

10. If four straight lines be proportionals, the rectangle contained by the extremes is equal to the rectangle contained by the means; and if the rectangle contained by the extremes be equal to the rectangle contained by the means, the four straight lines are proportionals.

11. If two circles touch one another internally, the straight line which joins their centres, being produced, shall pass through the point of contact.

Two circles AOB, COD touch externally in O: two straight lines AOC, BOD are drawn cutting the circles, prove that the chords AB, CD are parallel.

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12. Inscribe an equilateral and equiangular hexagon in a given circle.

13. Parallelograms about the diameter of any parallelogram are similar to the whole parallelogram and to one another.

SATURDAY, JUNE 14, from 2 to 4.30 P.M.

II. 7. Mathematics.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Plane Trigonometry and use of Logarithms.

1. Explain the usual convention for attaching the signs to the trigonometrical ratios for any angle.

Express $\sin 750°$, $\cos 210°$, $\tan 500°$ in terms of angles less than $90°$.

2. Prove that

(1) $\sin(A-B) = \sin A \cos B - \sin B \cos A$;

(2) $1 - \frac{1}{2}\sin 2A \tan A = \dfrac{1}{\sec^2 A}$.

(3) $\cot^2 A - \tan^2 A = \dfrac{8\cos 2A}{1-\cos 4A}$.

3. Prove that

$$2\cos\frac{A}{2} = \pm\sqrt{1+\sin A} \pm \sqrt{1-\sin A},$$

and determine the correct signs when A lies between $90°$ and $180°$.

Use this formula to calculate $\cos 15°$.

4. A person observes the angles subtended by a tower and the spire upon it to be the same. He knows the height of the tower (h), and his horizontal distance (a) from the foot of the tower. Find the height of the spire.

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5. A, B, C, a, b, c are the angles and sides of a triangle, S its area, s the half sum of the sides, R the radius of the circumscribed circle, r_1 the radius of that escribed circle which touches BC externally: prove that

(1) $r_1(s-a) = S$;

(2) $\sin\frac{A}{2} = \sqrt{\frac{(s-b)(s-c)}{bc}}$;

(3) $4SR = abc$;

(4) $b\cos^2\frac{C}{2} + c\cos^2\frac{B}{2} = s$.

6. In solving a triangle in which the parts given are two sides and the angle opposite to one of them (say a, b, A), shew that there are sometimes two values possible for the third side c; and illustrate your answer by a figure.

In such a case if C_1, C_2 are the two angles which correspond to the two sides c_1, c_2, which can be found, prove that

$$\sin\frac{C_1+C_2}{2} = \cos A.$$

7. Given $\log 8{\cdot}7146 = {\cdot}9402475$, $\log 8{\cdot}7147 = {\cdot}9402524$, find $\log {\cdot}008714642$. Find the product correct to 7 decimal places of ${\cdot}48653$ and ${\cdot}1791203$, given the above logarithms and $\log 4{\cdot}8653 = {\cdot}6871096$, $\log 1{\cdot}791203 = {\cdot}2531449$.

8. In a triangle $a = 105$, $b = 55$, $C = 34°42'30''$. Find the other angles having given

$\log 2 = {\cdot}3010300$, $L\cot 17°21'15'' = 10{\cdot}5051500$.

---

2. Mensuration.

($\pi = 3\frac{1}{7}$.)

1. The plan of a church is a rectangle (200 by 135 feet) opening into a semicircular apse whose radius is 35 feet. How many tiles each 10 inches square will be required for the pavement?

2. A cube and a sphere have the same superficial area: compare the edge of the one with the radius of the other. Also compare their volumes.

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3. A pyramid whose height is 6 inches, stands on a triangular base whose sides are 4, 5, 7 inches. Find the volume in cubic inches and decimals.

4. What will be the weight per foot of a cylindrical lead pipe whose thickness is $\frac{1}{8}$ of an inch, and external radius 1 inch, when a cubic inch of lead weighs 7 ounces?

FRIDAY, JUNE 13, from 5.30 to 8 P.M.

II. 8. Mechanics and Mechanism.

[N.B. More credit will be given to a few questions answered fully than to a greater number answered imperfectly. The answers are to be illustrated by diagrams or drawings, where these can be introduced.]

1. State the propositions known as the Parallelogram of forces, and the Polygon of forces.

Shew that a single force may be resolved into two others acting parallel to any two given straight lines.

2. A weight of 10 lbs., suspended from a fixed point by a string, is drawn aside till the string makes an angle of 30° with the vertical. Find the horizontal force necessary to keep it in that position, and the tension of the string.

3. If there are two bodies whose masses are given, and if the centre of gravity of the two together is given as well as the centre of gravity of one of them, shew how to determine the centre of gravity of the other.

ABC is an equilateral triangle, *D* is the middle point of *BC*, *E* of *CA*; the triangle *DCE* is removed. Find the centre of gravity of the remainder.

4. What are the three kinds of lever? give examples of each.

A body whose true weight is 1 lb. is weighed at each end of a false balance, and the sum of the apparent weights is $2\frac{1}{2}$ lbs.; find the ratio of the lengths of the arms.

5. A body of mass M rests on a rough horizontal plane and is attached to a string inclined at an angle of $\alpha°$ to the horizon which passes over a smooth pulley and supports a weight P which hangs freely. Find the relation between M and P when M is just on the point of motion.

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6. Shew that the time of falling from rest at the highest point of a vertical circle down any chord through that point is constant.

7. Describe Attwood's machine: and calculate the acceleration of the falling weight.

8. Define momentum. Two bodies whose weights are 30 lbs. and 5 lbs. are connected by a loose string and are at rest on a smooth horizontal plane: the small weight is projected away from the other along the plane with a velocity of 100 feet per second; find the velocity with which the two weights will move, assuming that when the string becomes tight it will remain so.

9. A body A impinges directly upon another, B, whose mass is $\frac{1}{3}$ of A's, B being at rest: A's velocity after impact is observed to be $\frac{3}{5}$ of the velocity it had before impact: find the coefficient of elasticity.

10. A bent tube whose arms are vertical contains a quantity of mercury. Into one of the arms is poured enough glycerine to occupy by itself $21\frac{1}{2}$ inches of the tube. Find how many inches the mercury in the other arm will rise, the densities of mercury and glycerine being as 10·75 : 1.

11. Describe the action of the Force Pump.

The weight of a cubic foot of water being 62·5 lbs., find the pressure in lbs. per square inch to which the materials of the pump will be subjected in raising water to a height of 720 feet.

WEDNESDAY, JUNE 11, from 5.30 to 7.30 P.M.

II. 9. Chemistry.

1. What are the arguments which are adduced to show that air is a mixture of nitrogen and oxygen, and not a chemical combination of these elements? From what sources is the carbon dioxide of the air derived, and in about what proportions is it generally found?

2. 2·24 litres of carbon dioxide are required. How many grams of crystallized sodium carbonate ($Na_2CO_3 + 10H_2O$) must be decomposed with dilute sulphuric acid in order to obtain it? Na = 23, C = 12.

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3. Express by means of equations the action of chlorine gas on the following substances: (1) solution of potassium iodide; (2) ammonia; (3) calcium hydrate.

4. How would you prepare from metallic iron: (1) crystallised ferrous sulphate; (2) anhydrous ferric chloride; (3) ferrous sulphide? State how ferrous salts may be converted into ferric salts and *vice versâ*; and mention reactions by which the two sets of salts may be distinguished.

5. Describe the ordinary process for the preparation of sulphur dioxide, and the properties of the gas. By what tests would you distinguish a solution of sodium sulphite from a solution of sodium sulphate?

6. What is *Aqua Regia*? What is its action on tin and gold respectively?

7. What are the principal native forms of calcium carbonate? Explain the chemical reaction which takes place in the formation from this carbonate of (1) quicklime; (2) slaked lime; and give the formulæ of these substances.

8. Calculate the percentage composition of magnesium pyrophosphate, $Mg_2P_2O_7$. Given, $Mg = 24$, $P = 31$.

THURSDAY, JUNE 12, from 5.30 to 7.30 P.M.

II. 9. Chemistry.

(*Practical Examination.*)

The tubes marked I, II, III, IV, contain single substances, consisting of one metallic and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were—I, Ammonium Oxalate; II, Barium Phosphate; III, Zinc Sulphate; IV, Sodium Phosphate.

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TWO HOURS ALLOWED.

Drawing from the Flat.

Copy in pen and ink, or in pencil, the accompanying outline, as nearly as you can the size of the original.

AN HOUR AND A HALF ALLOWED.

Drawing from the Solid.

Make a shaded drawing of the objects placed before you. The light should, if possible, come from the left hand.

In this Exercise particular attention should be paid to the gradations of shade on the rounded surface, and to exactness of contour, rather than to laborious perfection of finish. A small part of the drawing may be completed, to shew power of finishing; and should be indicated by a cross. But little regard can be shewn for such power, if the relations of shade are false, or the contours inaccurate or unrefined. The drawing will, *caeteris paribus*, be preferred which depends for its effect least on the direction of lines, and attains its results merely by differences of depth in shade. Exaggeration of darkness is particularly to be avoided.

The objects were a book, a sphere, and a jam-pot.

FRIDAY, JUNE 13, from 5.30 to 7.30 P.M.

Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. What are the signs used for (1) a Sharp; (2) a Flat; (3) a Natural; (4) a double Sharp; (5) a double Flat; and what is the effect of each of these signs?

2. Transpose the following (1) an octave higher, using the treble clef; (2) an octave lower, using the bass clef.

MOZART.

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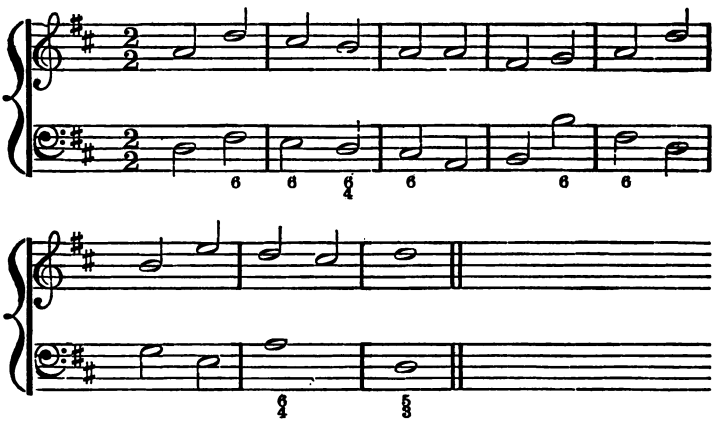
3. What is the interval (1) from one space of the stave to the next space but one? (2) from the bottom line to the top line?

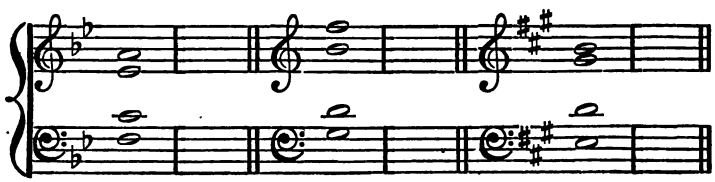
4. Write down the Major, Minor, and Diminished (or Imperfect) Triad of each of the following notes:—

5. State fully the meaning of the signs $\frac{3}{2}$, $\frac{6}{8}$?

6. Add a Second Treble part to the following exercise on Common Chords and their inversions, (making it into Music in three parts). Each Chord should be as complete as possible.



7. Resolve the following Chords of the Dominant Seventh according to rule:—



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EXAMINATION PAPERS.

SENIOR CANDIDATES.

TUESDAY, JUNE 10, from 11 A.M. to 1 P.M.

I. 1. English Grammar, Analysis and Composition.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation, and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Analyse—

To war upon a king that his instruments may be brought to condign punishment, and thereafter to punish them (the instruments), and not to spare only but to defend and honour him (the author), is the strangest piece of justice to be called Christian, and the strangest piece of reason to be called Human, that by men of reverence and learning, as their style imports them, ever yet was vented.

2. Parse each word in the following lines:—

The sum of all our answer is but this:—
We would not seek a battle, as we are;
Nor, as we are, we say, we will not shun it;
So tell your master.

3. What remains of the number-, gender-, and case-inflexions of English nouns?

4. Classify the principal relations indicated by prepositions.

5. Give a list of (1) Saxon, (2) Latin adjectival derivative terminations, with their values.

6. What are the necessary elements of a sentence? Illustrate your answer.

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7. Comment upon the following:—

> '*A* must *needs*, quoth 'a.
> The *rathe* primrose.
> We speak *that* we do know.
> You *ought* him a thousand pounds.
> Thy thoughts, which are *to us ward.*
> And *waxen* in their mirth.

8. Give an account of the feminine correlatives of *nephew*, *fox*, *weaver*, *earl*, and the past tenses of the verbs *bear*, *speak*, *melt*, *hang*, *sow*, *fly*, noting any archaic forms.

9. Write a short Essay on—A Comparison of the English Schools of Poetry of the last and present centuries, *or* The Influence of the Character of the Stuarts upon their fortunes.

TUESDAY, JUNE 10, from 9 to 11 A.M.

I. 2. Arithmetic.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper.
No credit will be given for any answer, the full working of which is not shewn.]

1. A man who sold a horse for 150*l.* 10*s.* gained just $\frac{1}{11}$ of what it cost him. Find its cost.

2. Simplify

(1) $(17\frac{2}{3}+\frac{4}{5}\text{ of }7\frac{5}{6}+\frac{1}{15})\div(17\frac{2}{3}\text{ of }\frac{4}{5}+7\frac{13}{15})$;

(2) $6+\cfrac{1}{2+\cfrac{1}{3+\cfrac{1}{4}}}$.

3. State the rule for finding the value of a recurring decimal.

Divide 53·361 by ·0088 and simplify

$$\frac{53\cdot8\dot{1}\dot{8}}{32\cdot5\dot{9}}\div4\frac{14}{163}.$$

4. Find by Practice the value of 13 cwt. 3 qrs. 25 lbs. at 2*l.* 4*s.* 4*d.* a cwt.

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5. Find the values of

(1) 5·25625 of 1 oz. 13 dwts. 8 grns.

(2) $\frac{3}{4}$ of $\frac{1}{9\frac{1}{2}}$ of 1*l.* 18*s.* + $\frac{2}{3}$ of ·375 of 15*s.*

6. What is the Present Worth of 354*l.* 4*s.* due in 3 months at $4\frac{4}{5}$ per cent.?

7. Find the cost of carpet required for a room 15 ft. 9 in. wide and 19 ft. 3 in. long, the carpet being 4 ft. 1 in. wide and costing 5*s.* 4*d.* a yard.

8. If 4 tons 1 cwt. were sold for 176*l.* 3*s.* 6*d.*, at a rate of profit 45 per cent., what was the cost price per cwt.?

9. Find the square roots of 12432676 and $1\cdot\dot{6}$, the latter to 3 decimal places.

10. Divide 154*l.* between 4 persons, so that their shares may be in proportions of $\frac{1}{2}$, $\frac{1}{3}$, $\frac{1}{4}$, $\frac{1}{5}$.

11. Which is better to invest money in, 3 per cent. consols at $97\frac{1}{2}$, or Railway stock at $162\frac{3}{8}$ paying 5 per cent.?

MONDAY, JUNE 9, from 2 to 3 P.M.

II. A. (1). Joshua and Judges, i–xviii.

1. Describe the conquest of Palestine, and shew how the nations previously occupying it were dealt with by the Israelites.

2. Give the position of the following places and the mention made of them in these books:—Bethhoron, Ebal, Hebron, Tabor, Laish, Ed.

3. Give some account of the Song of Deborah, explaining any words or expressions in it which require elucidation.

4. Mention the various causes described in these books by which the Israelites were drawn away from the service of Jehovah, and shew how they brought trouble upon them.

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5. Explain the following passages in connexion with their context:—

(*a*) Then shalt thou make thy way prosperous, and thus shalt thou have good success.

(*b*) Give glory to the Lord God of Israel.

(*c*) Ye cannot serve the Lord.

(*d*) Say now Shibboleth.

(*e*) Go and cry unto the gods which ye have chosen.

(*f*) He gave her the upper springs and the nether springs.

MONDAY, JUNE 9, from 3 to 4 P.M.

II. A. (2). St. Mark.

1. Give the list of the Apostles as recorded by St. Mark, and state what we know from this Gospel of each of them, with the exception of St. Peter.

2. Describe the circumstances and object with which this Gospel is generally said to have been written, and give any facts or expressions in the Gospel itself which bear upon this.

3. What is our Lord's teaching in this Gospel concerning—(*a*) the importance of faith, (*b*) the coming of Elias, (*c*) the payment of tribute, (*d*) the end of Jerusalem, (*e*) watchfulness?

4. Explain the following in connexion with their context:—

(*a*) The Son of Man is Lord also of the Sabbath.

(*b*) Are ye so without understanding also?

(*c*) Have salt in yourselves.

(*d*) Can ye drink of the cup that I drink of?

(*e*) With God all things are possible.

5. Translate and explain:—

Οὕτως ἐστὶν ἡ βασιλεία τοῦ θεοῦ ὡς ἐὰν ἄνθρωπος βάλῃ τὸν σπόρον ἐπὶ τῆς γῆς, καὶ καθεύδῃ καὶ ἐγείρηται νύκτα καὶ ἡμέραν, καὶ ὁ σπόρος βλαστάνῃ καὶ μηκύνηται ὡς οὐκ οἶδεν αὐτός. αὐτο-

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μάτη γὰρ ἡ γῆ καρποφορεῖ, πρῶτον χόρτον, εἶτα στάχυν, εἶτα πλήρη σῖτον ἐν τῷ στάχυϊ. ὅταν δὲ παραδῷ ὁ καρπός, εὐθέως ἀποστέλλει τὸ δρέπανον, ὅτι παρέστηκεν ὁ θερισμός.

Parse—βάλῃ, παραδῷ, παρέστηκεν.

Explain the words—πυγμῇ, σπεκουλάτωρ, διὰ τῆς τρυμαλίας τῆς ῥαφίδος, κολλυβίσται, κόφινοι.

MONDAY, JUNE 9, from 4 to 5 P.M.

II. A. (3). The Acts, I–XII.

1. What traces do you find in this part of the Acts of the existence of Church organization and of the practice of religious rites?

2. Shew from this history how our Lord's promise to his disciples was fulfilled when he said 'These signs shall follow them that believe. In my name shall they cast out devils; they shall speak with new tongues; . . . they shall lay hands on the sick, and they shall recover.'

3. Give briefly the account of Cornelius' conversion, and explain what special importance attaches to it.

4. To what persons is the name of Apostle applied in the Acts, and what qualifications did they severally possess for the office?

5. Give any quotations you can of passages of the Old Testament which occur in these chapters, stating on what occasions they were used.

6. Tell what you learn of St. Barnabas and Philip the Deacon from this history.

7. Translate:—

Θεωροῦντες δὲ τὴν τοῦ Πέτρου παρρησίαν καὶ Ἰωάννου καὶ καταλαβόμενοι ὅτι ἄνθρωποι ἀγράμματοί εἰσι καὶ ἰδιῶται, ἐθαύμαζον, ἐπεγίνωσκόν τε αὐτοὺς ὅτι σὺν τῷ Ἰησοῦ ἦσαν· τὸν δὲ ἄνθρωπον βλέποντες σὺν αὐτοῖς ἑστῶτα τὸν τεθεραπευμένον, οὐδὲν εἶχον ἀντειπεῖν. κελεύσαντες δὲ αὐτοὺς ἔξω τοῦ συνεδρίου ἀπελθεῖν, συνέβαλον πρὸς ἀλλήλους, λέγοντες "Τί ποιήσομεν τοῖς ἀνθρώποις τούτοις; ὅτι μὲν γὰρ γνωστὸν σημεῖον γέγονε δι' αὐτῶν, πᾶσι τοῖς κατοικοῦσιν Ἱερουσάλημ φανερόν, καὶ οὐ δυνάμεθα ἀρνήσασθαι. ἀλλ' ἵνα μὴ ἐπὶ πλεῖον διανεμηθῇ εἰς τὸν λαόν, ἀπειλῇ ἀπειλησώμεθα αὐτοῖς μηκέτι λαλεῖν ἐπὶ τῷ ὀνόματι τούτῳ μηδενὶ ἀνθρώπων."

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8. Translate and explain the following words and sentences:—

Ὁ δὲ κύριος προσετίθει τοὺς σωζομένους καθ' ἡμέραν τῇ ἐκκλησίᾳ—οὐκ ἔδωκεν αὐτῷ κληρονομίαν ἐν αὐτῇ, οὐδὲ βῆμα ποδός—ἐξιστῶν τὸ ἔθνος τῆς Σαμαρείας—ἀνακρίνας τοὺς φύλακας—λεπίδες—κολλᾶσθαι—θεὶς τὰ γόνατα.

MONDAY, JUNE 9, from 7 to 8 P.M.

II. A. (4). The First Epistle to the Corinthians.

1. How are the following names introduced—Chloe, Apollos, Sosthenes, Aquila and Priscilla, Timotheus? What do you know of them from other sources?

2. What do we learn from this Epistle as to (*a*) St. Paul's practice with regard to baptism; (*b*) the nature and character of his preaching?

3. What advice does St. Paul give with reference to the question of idol-sacrifices?

4. What error respecting the Resurrection does St. Paul combat? Give his arguments. What does he further tell respecting the manner of the Resurrection?

5. What allusions to St. Paul's direct intercourse with our Lord are to be found in this Epistle? Explain to what he probably refers.

6. Explain, with reference to the context:—

(*a*) Have we not power to eat and to drink?

(*b*) For this cause many are weak and sickly among you.

(*c*) Let all things be done decently and in order.

7. Translate:—

(*a*) *Βλέπετε γὰρ τὴν κλῆσιν ὑμῶν, ἀδελφοί, ὅτι οὐ πολλοὶ σοφοὶ κατὰ σάρκα, οὐ πολλοὶ δυνατοί, οὐ πολλοὶ εὐγενεῖς· ἀλλὰ τὰ μωρὰ τοῦ κόσμου ἐξελέξατο ὁ Θεὸς, ἵνα τοὺς σοφοὺς καταισχύνῃ· καὶ τὰ ἀσθενῆ τοῦ κόσμου ἐξελέξατο ὁ Θεὸς, ἵνα καταισχύνῃ τὰ ἰσχυρά· καὶ τὰ ἀγενῆ τοῦ κόσμου καὶ τὰ ἐξουθενημένα ἐξελέξατο ὁ Θεὸς, καὶ τὰ μὴ ὄντα, ἵνα τὰ ὄντα καταργήσῃ· ὅπως μὴ καυχήσηται πᾶσα σὰρξ ἐνώπιον αὐτοῦ.*

(*b*) *Ὡς περικαθάρματα τοῦ κόσμου ἐγενήθημεν, πάντων περίψημα ἕως ἄρτι.*

(*c*) *Ἐμοὶ δὲ εἰς ἐλαχιστόν ἐστιν ἵνα ὑφ' ὑμῶν ἀνακριθῶ, ἢ ὑπὸ ἀνθρωπίνης ἡμέρας· ἀλλ' οὐδὲ ἐμαυτὸν ἀνακρίνω.*

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MONDAY, JUNE 9, from 6 to 7 P.M.

II. A. (5). The Catechism. Morning and Evening Services and Litany. History of the Prayer Book.

1. Shew the relation between the three Baptismal Blessings; and also the connection of the three parts of the Baptismal Vow.

2. Which answers in the Catechism regard the Sacrament of the Lord's Supper as a commemoration, and which as a communion? Shew from Scripture that it is both.

3. What is the chief subject of the sentences at the beginning of Morning and Evening Prayer? Why are these placed at the beginning of the Service?

4. Explain the following words and expressions:—Let thy mercy lighten upon us; Bishops and curates; in knowledge of whom standeth our eternal life; affiance; quick; hell; mentioning where they occur.

5. How would you divide the petitions in the Prayer for all Conditions of Men? What petitions in the Litany would correspond with your division?

6. How did the Morning and Evening Prayer begin in the First Prayer Book of Edward VI? When was the present arrangement introduced?

At which revision were the concluding questions of the Catechism inserted in the Prayer Book?

WEDNESDAY, JUNE 11, from 2 to 4.30 P.M.

B. 1. English History.

[N.B. All Candidates are expected to begin by attempting *at least* three of the Questions in the first division of this paper, and to answer some part of either the second or third division.]

1. Discuss the position of the villein under the Norman dynasty, pointing out any circumstances then existing which tended either to depress or to raise his condition in after days.

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2. Point out the constitutional importance of the reign of Edward I, and examine the conduct of the king in any ecclesiastical or political crises of his reign.

3. Sketch the character and the career of the Earl of Warwick called the king-maker. How do you account for his power?

4. Give an account of the foreign policy of Queen Elizabeth, marking its chief characteristics.

5. How far was Charles I ready to comply with the demands of Parliament? Compare the causes of the Great Rebellion and of the Revolution of 1688.

6. Illustrate the general character of the policy of Walpole at home and abroad, and state the causes of his fall.

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7. What do you know of George Grenville, Wilkes, Charles James Fox, Addington, Horne Tooke, Wilberforce, Castlereagh?

8. Explain the political position of Ireland from 1782 to 1800. State the terms of the Union, the opinion of Mr. Pitt as to any concession believed to be necessary to its completeness and the effect of this question on the course of English politics.

9. What were the effects of the French Revolution on the position of political parties in England?

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10. Decide the places to be assigned to Cowper, Burns, Shelley, and Byron, supporting your opinion by the character of any of their works.

11. Give examples of any distinctly artificial literature, of literary satires, and of any signs of interest in the literature of the past during this period.

12. What do you know of the Letters to Sir H. Mann, the Letters of Junius, the Letters on a Regicide Peace, the Critic, the Diversions of Purley, Emma, Laodamia, Christabel, Thalaba, Endymion?

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TUESDAY, JUNE 10, from 5.30 to 7.30 P.M.

B. 2. Shakspeare's Macbeth, and Burke's Reflections on the French Revolution.

Shakspeare's Macbeth.

1. Shew from the Play Macbeth's sensitiveness to presentiment, conscience, imagination.

2. Trace the development of the characters of Macbeth and of Lady Macbeth as the Play proceeds.

3. The murder of Macduff's family was long omitted from the acted Play. Do you consider the scene essential to the Plot? Give reasons for your answer.

4. Explain carefully, assigning each to its speaker, the following passages:—

(*a*) His wonders and his praises do contend
Which should be thine or his.

(*b*) There if I grow, the harvest is your own.

(*c*) To alter favour ever is to fear.

(*d*) Restrain in me the cursed thoughts, that Nature
Gives way to in repose.

(*e*) Always thought
That I require a clearness.

(*f*) My strange and self-abuse
Is the initiate fear that wants hard use.

5. Give the meaning, and context, of the following words:—flout, aroint, limbeck, seeling, germens, sagg; and quote any allusions in the Play to classical history or mythology.

Burke.

6. Give the heads of Burke's argument, from history, and from analogy with nature, that the British Constitution is, and ought to be, inherited, not newly created.

7. In what respect does Burke think we are indebted to the 'Age of Chivalry'? Criticise his position.

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8. How does Burke defend Church Establishments? Examine his argument?

9. Give Burke's animadversions on the new French Executive, Judicature, Army.

10. Quote the image of the grasshopper and the cattle; and explain the allusions to the flower de luce, Lord George Gordon, facies Hippocratica, Limbus Patrum, a Grand Compounder.

TUESDAY, JUNE 10, from 2 to 4.30 P.M.

B. 3. Physical, Political, and Commercial Geography.

[N.B. Candidates are expected to answer one question *at least* from each section of this paper.]

SECTION I.

1. In the accompanying map of Italy—(1) Trace the course of the Po, marking its principal tributaries. (2) Trace the range of the Apennines. (3) Mark with an asterisk the position of Salerno, Siena, Brindisi, Verona, Spezia, Ravenna, and the Isle of Ischia; and in every case insert the names.

2. Describe the physical features of the United States.

3. In what ways do physical conditions influence the character of nations? Give examples.

4. Give a rough sketch map of *either* Ireland, inserting the Shannon and Boyne and the counties bordering on the Sea, *or* the Elbe marking its tributaries and the chief towns on its banks.

SECTION II.

1. To what geographical circumstances do the following towns owe their importance—York, Oxford, Newcastle, Norwich, Gloucester, Carlisle, Exeter? Illustrate by reference to historical events.

2. Give a short sketch of the settlement of Europeans in India, and explain briefly what circumstances favoured the growth of the English power there previous to 1815.

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3. To what family and to which of its branches do the following belong—Basques, Fellaheen, Croats, Lapps, Czechs, Finns? State what you know about each.

4. What do you know of the constitution and general political condition of—Greece, Prussia, Canada, Chili, Annam?

SECTION III.

1. What are the principal products of—Spain, Brazil, China, Madagascar, The Transvaal?

2. By what means were the products of the East diffused over Europe previous to the present century?

3. State the causes of the importance of—Valparaiso, Sydney, Kiel, Khartoum, Cardiff.

4. From what countries are the following commodities exported—cork, oranges, lead, salt, diamonds, maize?

TUESDAY, JUNE 10, from 2 to 4.30 P.M.

B. 4. Outlines of Political Economy.

1. Explain the following:—stock, economy, bi-metallism, corn laws, actual price, currency, tenant right, excise, rates, Statute of Apprenticeship, revenue.

2. Discuss briefly the use and abuse of Retail Trade, Money-lending, Trades Unions.

3. What causes tend to increase the productive power of Labour?

4. Shew the influence of Custom on tenure of land.

5. Define Price. What determines the price of mineral produce?

6. Why is cheap food so essential to a wealthy country like England?

7. Explain the value of Joint Stock Banks, and describe some of the chief operations of Banking.

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8. Give a short account of the National Debt, and state its effect on the wealth of the country.

9. Comment upon the following:—

(*a*) Free trade is only free in name.

(*b*) The income tax is an impost on savings.

(*c*) High profits tend more than high wages to raise the price of goods.

(*d*) Money makes part of the capital of the country, but no part of the revenue.

10. What remedies have been suggested to diminish the burdens of Local Taxation?

WEDNESDAY, JUNE 11, from 9 to 11 A.M.

C. I. Latin.

A Second Latin Paper will be given to you at 11 a.m.

I.

CICERO, *de Amicit. Catil.* i. VIRGIL, *Æn.* vi.

[N. B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the unprepared Translation.]

1. Translate into English:—

Longa fuit medii mora temporis: actaque magni
Herculis implerant terras, odiumque novercae.
Victor ab Oechalia Cenaeo sacra parabat
Vota Iovi, quum Fama loquax pervenit ad aures,
Deïanira, tuas, quae veris addere falsa
Gaudet, et e minima sua per mendacia crescit,
Amphitryoniaden Ioles ardore teneri.
Credit amans: Venerisque novae perterrita fama
Indulsit primo lacrimis; flendoque dolorem
Diffudit miseranda suum: mox deinde, Quid autem
Flemus, ait? Pellex lacrimis laetabitur istis.
Quae quoniam adventat, properandum, aliquidque novandum est,
Dum licet, et nondum thalamos tenet altera nostros.

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2. Translate into English:—

(*a*) Firmamentum autem stabilitatis constantiaeque eius, quam in amicitia quaerimus, fides est; nihil est enim stabile, quod infidum est. Simplicem praeterea et communem et consentientem, id est, qui rebus isdem moveatur, eligi par est; quae omnia pertinent ad fidelitatem; neque enim fidum potest esse multiplex ingenium et tortuosum, neque vero, qui non isdem rebus movetur naturaque consentit, aut fidus aut stabilis potest esse. addendum eodem est, ut ne criminibus aut inferendis delectetur aut credat oblatis, quae pertinent omnia ad eam, quam iam dudum tracto, constantiam.

(*b*) Quamquam nonnulli sunt in hoc ordine, qui aut ea quae imminent non videant aut ea quae vident dissimulent; qui spem Catilinae mollibus sententiis aluerunt coniurationemque nascentem non credendo conroboraverunt; quorum auctoritatem secuti multi non solum improbi, verum etiam imperiti, si in hunc animadvertissem, crudeliter et regie factum esse dicerent. nunc intellego, si iste, quo intendit, in Manliana castra pervenerit, neminem tam stultum fore qui non videat coniurationem esse factam, neminem tam improbum qui non fateatur. hoc autem uno interfecto intellego hanc rei publicae pestem paulisper reprimi, non in perpetuum comprimi posse.

(*c*) Hic et Aloidas geminos inmania vidi
Corpora, qui manibus magnum rescindere caelum
Adgressi, superisque Iovem detrudere regnis.
Vidi et crudelis dantem Salmonea poenas,
Dum flammas Iovis et sonitus imitatur Olympi.
Quattuor hic invectus equis et lampada quassans
Per Graium populos mediaeque per Elidis urbem
Ibat ovans, divomque sibi poscebat honorem,
Demens! qui nimbos et non imitabile fulmen
Aere et cornipedum pulsu simularet equorum.
At pater omnipotens densa inter nubila telum
Contorsit, non ille faces nec fumea taedis
Lumina, praecipitemque inmani turbine adegit.

3. Translate with explanations of the historical allusions:—

(*a*) Factus est consul bis; primum ante tempus; iterum sibi suo tempore, reipublicae paene sero.

(*b*) Num unum diem postea L. Saturninum tribunum plebis et C. Servilium praetorem mors ac reipublicae poena remorata est?

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(*c*) Hic rem Romanam, magno turbante tumultu,
Sistet, eques sternet Poenos, Gallumque rebellem,
Tertiaque arma patri suspendet capta Quirino.

4. Translate accurately, with any needful explanations of construction or meaning:—gaudet cognomine terra—lucent genialibus altis Aurea fulcra toris—obloquitur numeris septem discrimina vocum—quantum instar in ipso.

WEDNESDAY, JUNE 11, from 11 A.M. to 1 P.M.

C. I. Latin.

II.

[N.B. Latin Prose is required of all Candidates in order to obtain exemption from Responsions.]

1. Translate into Latin Prose:—

The storm came on next night; but Providence favouring his innocence and assisting his capacity, brought him safe through it, though as terrible a storm as had ever happened in those seas. The fleet of twenty sail, which against his advice had put to sea, suffered the punishment due to their temerity. Only four escaped the storm; sixteen perished. Amongst those which were lost was the ship which carried back that governor to Spain, who had sent Columbus thither in so oppressive and shameful a manner; amongst the four that were saved was one that had on board some treasure, all that could be rescued from the pillage of the admiral's fortune.

2. Give the gender and genitive singular of paries, coetus, comes, sacerdos; and the nominative of tramite, secures, pectine, altaribus.

3. Give the perfect, supine, and infinitive present of obsto, ignosco, exhaurio, sentio; and the present of adeptus, inustus, expertus, raptus.

4. Give the meanings of quisque, quisquis, quivis, quisnam; and write down the Latin for 'so many,' 'how many,' 'such,' 'of what sort.'

5. Illustrate by short sentences the construction of dignus, interest, capax, consto; and the force of the prepositions, pro, prae, propter, ob. Translate each of the sentences.

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6. Show how the use of participles in Latin simplifies construction, and shortens sentences. Illustrate by quotations.

7. Explain the construction of the words in Italics in the following phrases:—*voti* damnatus est—non *tanti* est—ante *diem* VI. Kal. Novembres—nefas *visu*—quid *mihi* Celsus agit?

8. For Latin Elegiacs:—

Stern Winter now, by Spring repress'd,
  Forbears the long-continued strife;
And Nature, on her naked breast,
  Delights to catch the gales of life.

Now o'er the rural kingdom roves
  Soft Pleasure with her laughing train,
Love warbles in the vocal groves,
  And Vegetation plants the plain.

SATURDAY, JUNE 14, from 9 to 11 A.M.

C. 2. Greek.

A second Greek Paper will be given to you at 11 a.m.

I

AESCH. *Prom. Vinct.* XEN. *Cyrop.* IV, V.

[N.B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate:—

Ὁ δὲ Θήρων, νυκτὸς ἤδη οὔσης, σιγῶν ἐπὶ τὴν λῃστείαν ἐξεπορεύετο· πέμπτος δὲ αὐτὸς προσῄει τῷ τάφῳ· τοὺς δὲ λοιποὺς (ἦσαν γὰρ οἱ σύμπαντες ἑκκαίδεκα) μένειν ἐπὶ τῆς νηὸς ἐκέλευσε, καὶ ἑτοίμας τὰς κώπας ἔχειν, ἵνα, ἐάν τι αἰφνίδιον συμβαίνῃ, ταχέως τοὺς ἀπὸ γῆς ἁρπάσαντες ἀποπλεύσωσιν. ἐπεὶ δὲ ἀνεῤῥάγη ὁ τάφος, προὔβαλε τὴν κεφαλὴν ὁ λῃστής, καὶ κατὰ μικρὸν εἰσεδύετο. Καλλιῤῥόη δὲ αὐτῷ προσπεσοῦσα, ἱκετεῦσαι ἐβούλετο· ὁ δὲ φοβηθεὶς ἐξεπήδησε, τρέμων δὲ πρὸς τοὺς ἑταίρους ἐφθέγξατο· Φεύγωμεν ἐντεῦθεν, δαίμων γάρ τις φυλάττει τὰ ἔνδον, καὶ εἰσελθεῖν ἡμῖν οὐκ ἐπιτρέπει.

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2. Translate, with short notes:—

(*a*) Μηδάμ' ὁ πάντα νέμων
θεῖτ' ἐμᾷ γνώμᾳ κράτος ἀντίπαλον Ζεὺς,
μηδ' ἐλινύσαιμι θεοὺς ὁσίαις θοίναις ποτινισσομένα
βουφόνοις, παρ' Ὠκεανοῦ πατρὸς ἄσβεστον πόρον,
μηδ' ἀλίτοιμι λόγοις,
ἀλλά μοι τόδ' ἐμμένοι καὶ μήποτ' ἐκτακείη.

(*b*) Σὲ τὸν σοφιστὴν, τὸν πικρῶς ὑπέρπικρον,
τὸν ἐξαμαρτόντ' ἐς θεοὺς ἐφημέροις
πορόντα τιμὰς, τὸν πυρὸς κλέπτην λέγω·
πατὴρ ἄνωγέ σ' οὕστινας κομπεῖς γάμους
αὐδᾶν, πρὸς ὧν ἐκεῖνος ἐκπίπτει κράτους·
καὶ ταῦτα μέντοι μηδὲν αἰνικτηρίως,
ἀλλ' αὖθ' ἕκαστ' ἔκφραζε.

(*c*) Ἄλλο τι φώνει καὶ παραμυθοῦ μ'
ὅ τι καὶ πείσεις· οὐ γὰρ δή που
τοῦτό γε τλητὸν παρέσυρας ἔπος.

3. Translate, with short notes:—

(*a*) Οὐ γὰρ οἱ ἐγγύτατα τῶν φίλων καθήμενοι μάλιστα τοῖς φίλοις τὴν ἀσφάλειαν παρέχουσιν, ἀλλ' οἱ τοὺς ἐχθροὺς μήκιστον ἀπελαύνοντες μᾶλλον τοὺς φίλους ἐν ἀκινδύνῳ καθιστᾶσι. σκέψαι δὲ οἵῳ ὄντι μοι περὶ σὲ οἷος ὢν περὶ ἐμὲ ἔπειτά μοι μέμφει. ἐγὼ μέν γέ σοι ἤγαγον συμμάχους, οὐχ ὅσους σὺ ἔπεισας, ἀλλ' ὁπόσους ἐγὼ πλείστους ἐδυνάμην· σὺ δέ μοι ἔδωκας μὲν ἐν τῇ φιλίᾳ ὄντι ὅσους πεῖσαι δυνασθείην· νῦν δ' ἐν τῇ πολεμίᾳ ὄντος οὐ τὸν θέλοντα ἀλλὰ πάντας ἀποκαλεῖς.

(*b*) Ἐπ' οὐδενὶ γὰρ βρώματι οὐδὲ πώματι Πέρσης ἀνὴρ τῶν πεπαιδευμένων οὔτ' ἂν ὄμμασιν ἐκπεπληγμένος καταφανὴς γένοιτο οὔτε ἁρπαγῇ οὔτε τῷ νῷ μὴ οὐχὶ προσκοπεῖν ἅπερ ἂν καὶ μὴ ἐπὶ σίτῳ ὤν· ἀλλ' ὥσπερ οἱ ἱππικοὶ διὰ τὸ μὴ ταράττεσθαι ἐπὶ τῶν ἵππων δύνανται ἅμα ἱππεύοντες καὶ ὁρᾶν καὶ ἀκούειν καὶ λέγειν τὸ δέον, οὕτω κἀκεῖνοι ἐν τῷ σίτῳ οἴονται δεῖν φρόνιμοι καὶ μέτριοι φαίνεσθαι· τὸ δὲ κεκινῆσθαι ὑπὸ τῶν βρωμάτων καὶ τῆς πόσεως πάνυ αὐτοῖς ὑικὸν καὶ θηριῶδες δοκεῖ εἶναι.

(*c*) Πρὸς ταῦτα ἀπεκρίναντο ἀμφότεροι κατὰ ταὐτὰ περαίνειν ὅ τι μέλλει, ὡς ταῦτ' εἰδόσι σφίσι καὶ μέλον αὐτοῖς ἰσχυρῶς ὅπῃ τὸ μέλλον ἀποβήσοιτο.

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SATURDAY, JUNE 14, from 11 A.M. to 1 P.M.

C. 2. Greek.

II.

1. Translate into Greek Prose:—

The lion, when he is pursued, shows no fear (according to the old story), even if the men who hunt him be many, and armed with spears and bows. But, although he is bold, he is cunning as well. For as he departs to his home in the mountains, he carefully conceals the marks which his feet have made on the ground, destroying even the smallest with his tail. This he does that he may not be slain. And, as he does it with much wisdom, he usually escapes, and dies at a great age. This story is perhaps not entirely true. But, whether it is true or false, we may learn that the boldest need to be also wise.

2. Parse *δράσειε, ἐξόν, ἀποσταθεῖσαν, Ἡράκλεις, ποίει, τραφῇ, σῶσον, ἐμέθεν, δέχου, φύγω.*

3. Write down the 2nd person singular and the 3rd person plural of the following:—the 1st aorist indicative middle of *ἐργάζομαι* and *ὠθέω*: the perfect, indicative, active of *ζηλόω* and *αἱρέω*: and the pluperfect of *οἶδα*:—and give the genitive singular and dative plural of *γεγώς, βοῦς, βορεάς, θρίξ.*

4. State and distinguish, with examples, the ways of expressing in Greek—

(1) A prohibition.

(2) A wish.

5. Give some account, with examples, of the uses of—*καὶ μήν—καὶ δή—νὴ Δία—καὶ πῶς—οὐ . . . οὐδέ.*

6. For Greek Iambics:—

Aen. To whom the aged King thus trembling spoke:
'Achilles' son, remember what I was,—
Father of fifty sons, but they are slain;
King of this city, but my Troy is fired!
Yet who so wretched, but desires to live?
O let me live, great Neoptolemus!'
Not moved at all, but smiling at his tears,
This butcher, while his hands were yet held up,
Treading upon his breast, struck off his hands.
Dido. O end, Aeneas, I can hear no more.

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THURSDAY, JUNE 12, from 9 to 10.30 A.M.

C. 3. French.

A second French paper will be given to you at 10.30 a.m.

I.

1. Translate into English :—

(*a*) Ils sont finis, les voyages des trois vies. D'autres reprendront le même chemin, mais non pas moi. Il me faut dire ici adieu à toutes les choses sereines qui m'ont donné la paix.

Amis, je remets entre vos mains le rameau de coudrier qui m'a fait pénétrer dans le pays de Merlin sans crainte de m'égarer. Tenez ! voici les clefs des mondes enchantés. Ouvrez-les à votre tour. Vous savez maintenant comme la route est aisée à travers les salles innombrables de la maison de la justice.

A l'endroit où je me suis arrêté, vous trouverez d'autres horizons que j'ai dû abandonner. Ils vous appartiendront dès que vous y aurez mis le pied. Donnez à votre esprit l'essor. Quand vous aurez trouvé ces lieux nouveaux, vous penserez en vous-mêmes, 'Ces lieux nous plaisent, ils en annoncent de plus beaux. Mais c'est lui qui nous les a ouverts.'

Pour moi, je m'arrête ; et je fais comme ceux qui se séparent d'un ancien ami qu'ils ont longtemps retenus sous leur toit, et qu'ils désespèrent de revoir ; ils précipitent leur adieu pour ne pas laisser aux larmes le temps d'arriver.

(*b*) La première chose que fit Didier fut de se procurer un exemplaire des *Incendies de l'âme*. Avant de s'embarquer pour cette contrée lointaine qui s'appelait Prosper Randoce, il était bien aised'examiner un peu la carte du pays. Dès qu'il eut reçu le précieux volume, il se mit à l'étudier en conscience. C'était une macédoine, un salmigondis de morceaux fort disparates. Il y avait d'abord quelques pièces d'un romantisme échevelé, bariolées d'images, chamarrées d'hyperboles, très-empâtées de couleurs. On y reconnaissait sans peine l'imitation maladroite d'un très-grand poëte qui n'a fait cadeau de son génie à personne. Comme leur maître, les courtisans d'Alexandre penchaient la tête à gauche ; mais Alexandre avait préalablement gagné la bataille d'Arbelles. Dans l'un de ces morceaux lyriques, l'auteur se peignait lui-même comme un homme *au cœur fauve, au poil farouche*. Somme toute, ce lyrisme était froid, grave défaut pour un incendie. Cependant

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il se rencontrait çà et là quelques heureux jets, quelques tirades d'une assez belle venue, des vers bien frappés, des images vives, saisissantes; il semblait que l'émotion allait venir, on attendait quelque chose; par malheur l'auteur se mettait aussitôt à gouailler. Il se hâtait de persifler sa passion, de plaisanter son attendrissement; il tournait brusquement au turlupin, et tout finissait par une cabriole. En un mot, il se faisait le pompier de son incendie.

2. Give the English equivalents of the following phrases and sentences, and add any explanation of them you think proper:—

(*a*) Il faut s'exécuter.

(*b*) Gens de sac et de corde.

(*c*) Ils ne se cousinent pas ensemble.

(*d*) Il n'y a plus personne au logis.

(*e*) Il faut avoir un œil aux champs et l'autre à la ville.

(*f*) La lune rousse.

THURSDAY, JUNE 12, from 10.30 A.M. to 12.30.

C. 3. French.

II.

1. Translate into French:—

I have received two letters from you, of which the second complains of the neglect shown to the first. You must not tie your friends to such punctual correspondence. You have all possible assurances of my affection and esteem, and there ought to be no need of reiterated professions. When it may happen that I can give you either counsel or comfort, I hope it will never happen to me that I should neglect you; but you must not think me criminal or cold if I say nothing when I have nothing to say.

2. Translate the following phrases and refer them to rules:—There are trees. Will there be any tall trees? There were no trees. There should not be so many trees.

3. Construct sentences to show when *celui* and *celui-ci* are respectively to be used to translate the demonstrative pronouns *this* or *that*.

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4. When is the personal pronoun, used as a direct or indirect object, to be repeated in French? Translate: I say it to you who can understand me. They do themselves harm.

5. How is the pronoun *it* to be translated into French after the prepositions *on, with, by, from.* Translate: What do you mean by it?

6. Write in the present infinitive and translate: *dú, cru, su, né, ému.*

7. Construct sentences to show when the second pluperfect is used in French.

8. Give examples of *ni* connecting two negative propositions, and translate: We shall hardly convince one another, nor is it necessary that we should.

9. Translate into English:—

Conway approached by land or water, looms upon you more like some picture in romance, than that sober and not generally very wholesome reality—a Welsh town. The pedestrian reaching it from the south is astonished to see before him a brown old wall, fortified at regular distances by round towers, running up the hill-side, and following its irregularities, like a miniature wall of China. He feels inclined to rub his eyes, and doubt his own senses—it seems more like one of Albert Durer's rude old woodcuts than anything of the living present: it only requires a fierce encounter between St. George and the Dragon in the foreground, to make the picture perfect. Not a church tower, not a house is to be seen peering over the battlements; and the fields run up to the old brown walls, all the way round the land side of the town, as closely as though it were some pound on a common.

FRIDAY, JUNE 13, from 9 to 10.30 A.M.

C. 4. German.

I.

[A second German paper will be given to you at 10.45 A.M.]

Translate into English:—

(1) Heute trennten wir uns von dem wackern Führer; ein gutes Trinkgeld belohnte seine sorgfältigen Dienste. Wir schieden freundlich nachdem er nsvohrer noch einen; Lohnbedienten verschafft, der uns gleich in die beste Herberge

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bringen und alles Merkwürdige von Messina vorzeigen sollte. Der Wirth, um seinen Wunsch uns los zu werden, schleunigst erfüllt zu sehen, half Koffer und sämmtliches Gepäk auf das schnellste in eine angenehme Wohnung schaffen, näher dem belebten Theile der Stadt, das heisst ausserhalb der Stadt selbst. Damit aber verhält es sich folgendermassen. Nach dem ungeheuern Unglück, das Messina betraf, blieb, nach zwölftausend umgekommenen Einwohnern, für die übrigen dreissigtausend keine Wohnung, die meisten Gebäude waren niedergestürzt, die zerrissenen Mauern der übrigen gaben einen unsichern Aufenthalt. Man errichtete daher eiligst im Norden von Messina, auf einer grossen Wiese, eine Bretterstadt, von der sich am schnellsten derjenige einen Begriff macht, der zu Messzeiten den Markt zu Leipzig durchwanderte; denn alle Kramläden und Werkstätten sind gegen die Strasse geöffnet; vieles ereignet sich ausserhalb.

(2) WEHMUTH.

Ich kann wohl manchmal singen,
Als ob ich fröhlich sei,
Doch heimlich Thränen dringen,
Da wird das Herz mir frei.
So lassen Nachtigallen,
Spielt draussen Frühlingsluft,
Der Sehnsucht Lied erschallen
Aus ihres Käfigs Gruft.
Da lauschen alle Herzen,
Und alles ist erfreut,
Doch keiner fühlt die Schmerzen,
Im Lied das tiefe Leid.

(3) Wir können Goethe selbst am besten kennen lernen durch sein eigenes Urtheil über Gegenstände, die uns Allen vor Augen liegen, und worüber uns schon die bedeutendsten Menschen ihre Ansicht mitgetheilt haben. In dieser Hinsicht möchte ich am liebsten auf Goethe's italienische Reise hindeuten, indem wir alle, entweder durch eigene Betrachtung oder durch fremde Vermittelung das Land Italien kennen, und dabei so leicht bemerken, wie jeder dasselbe mit subjectiven Augen ansieht, Dieser mit unmuthigen Augen, die nur das Schlimme sehen, Jener mit begeisterten Augen, die überall nur das Herrliche sehen, während Goethe mit seinem klaren Griechenauge Alles sieht, das Dunkle und das Helle, nirgends die Dinge mit seiner Gemüthsstimmung koloriert, und uns Land und Menschen schildert in den wahren Umrissen und wahren Farben, womit sie Gott umkleidet.

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FRIDAY, JUNE 13, from 10.30 A.M. to 12.30.

C. 4. German.

II.

1. Translate into German:—

A man who had performed many services for his country was condemned to death for a crime. But the prince resolved to allow the criminal to choose the manner of his death. So the gaoler said to him: 'On account of your former good deeds, the prince wishes to do you this favour. You may elect to be beheaded, or hanged, or to take poison, or to die in whatever other way you prefer.' The criminal answered: 'All these methods cause too much pain; I myself have always believed death from old age to be the easiest, and this is the one I will choose and no other.' As nothing could move him from this decision, he was set at liberty. For the prince said: 'I have given my word, and I will not break it.'

2. Write down the 1st and 2nd person singular present and imperfect, and the past participle of:—hauen, gehen, schwören, helfen, veranlassen, sich benehmen, ausziehen.

3. Distinguish the different genders and meanings in each of the following words:—Erbe, Heide, Leiter, Mark, See, Verdienst; and the different plurals, with their respective significations, of Bank, Band, Laden.

4. Explain the difference between übersetzen and übersétzen, dúrchlesen and durchlésen, wiéder holen and wiederhólen, widersétzen and wieder setzen.

5. Decline in the singular and plural the German for—a dear friend, her dear daughter, beautiful woman (*Weib*).

6. Translate into German:—

It is hardly necessary for us to say that this is an excellent book excellently translated. The original work is known and esteemed wherever German literature is studied, and has been found interesting even in a most inaccurate and dishonest French version. It is indeed the work of a mind fitted both for minute researches and for large speculations. It is written also in an admirable spirit, equally remote from levity and bigotry, serious and earnest, yet tolerant and impartial. It is, therefore, with the greatest pleasure that we

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now see this book take its place among the English Classics. Of the translation we need only say that it is such as might be expected from the skill, the taste, and the scrupulous integrity of the accomplished lady, who, as an interpreter between the mind of Germany and the mind of Britain has already deserved so well of both countries.

THURSDAY, JUNE 12, from 2 to 4.30 P.M.

D. Mathematics.

Algebra.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Simplify (1) $\dfrac{a^4-b^4}{a^2b^2} \times \dfrac{(a+b)^2}{\left(\dfrac{a}{b}-\dfrac{b}{a}\right)^2}$;

(2) $\dfrac{1+x}{1-x}+\dfrac{1-x}{1+x}-\dfrac{1+x^2}{1-x^2}-\dfrac{1-x^2}{1+x^2}$.

2. Add together

$$(x-1)(x+3),\quad 2(\sqrt{2}+x)(\sqrt{2}-x),\quad (x+1)(x-2),$$

and divide the result by $\sqrt{x}-1$.

3. Find the G. C. M. of

$$15a^4+10a^3b+4a^2b^2+6ab^3-3b^4$$

and $\quad 6a^3+19a^2b+8ab^2-5b^3$,

and the L. C. M. of

$$(t-u)^2(a-b)^3,\quad (t+u)^2(a^2-b^2)^4,\quad (a+b)^4(b+c).$$

4. Extract the square root of

$$x^3+\frac{1}{x^3}+10\left(\frac{1}{x}-1\right)+6x^2-\frac{4}{x^2}+5x.$$

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5. Solve the equations:

(1) $\left.\begin{aligned} 8x-21y &= 33 \\ 6x+35y &= 177 \end{aligned}\right\}$;

(2) $\dfrac{x}{4}+\dfrac{3}{x}=2$;

(3) $7\dfrac{1}{4}-\dfrac{2x-3}{7}=3\dfrac{1}{4}-\dfrac{4-5x}{7}$.

6. A number consists of two digits differing by unity: and, if the square of the number formed by reversing the digits be added to the square of the given number, the sum is 585. Find the number.

7. Find the value of $\dfrac{1}{\sqrt{2}+1}$ as far as three places of decimals, and extract the square root of $134+84\sqrt{2}$.

8. Prove that in the expansion of $(1-x)^n$, where n is a positive integer, the coefficients of x^p and x^{n-p} are the same; and that the sum of the coefficients of all the terms in the expansion is equal to zero.

Expand $(1-\frac{3}{2}x)^{\frac{2}{3}}$ as far as x^4.

9. Sum to n terms the following series:

(1) $(1+\sqrt{2})+(2+3\sqrt{2})+(3+5\sqrt{2})+\ldots$

(2) $9+1+\frac{1}{9}+\ldots$

10. Simplify $[(a^3b^{\frac{1}{2}})^6\times(a^{-2}b^{-1})^2]^{-\frac{1}{6}}$,
and divide $3x^{\frac{4}{3}}+4x+6x^{\frac{2}{3}}-4x^{\frac{1}{3}}+3$ by $3x^{\frac{2}{3}}-2x^{\frac{1}{3}}+1$.

11. If $a:b::x:y$, shew that

(1) $a^3:b^3::x^3:y^3$;

(2) $a^2+b^2:a(a-b)::x^2+y^2:x(x-y)$.

12. Solve the equations:

(1) $\left.\begin{aligned} \frac{1}{y}+\frac{1}{z} &= \frac{7}{12} \\ \frac{1}{z}+\frac{1}{x} &= \frac{3}{4} \\ \frac{1}{x}+\frac{1}{y} &= \frac{5}{6} \end{aligned}\right\}$;

(2) $\left.\begin{aligned} y(y-1) &= x(x+1) \\ y+1 &= x-1 \end{aligned}\right\}$.

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FRIDAY, JUNE 13, from 2 to 4.30 P.M.

D. Mathematics.

Euclid.

1. Define a plane superficies, a circle, a rhomboid, parallel straight lines.

2. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects it, that is, divides it into two equal parts.

3. In equal circles, the angles which stand upon equal circumferences are equal to one another, whether they be at the centres or circumferences.

4. If straight lines be drawn from each angle of a triangle bisecting the opposite sides, four times the sum of the squares on these lines is equal to three times the sum of the squares on the sides of the triangle.

5. Inscribe a circle in a given square.

6. If a straight line be bisected and produced to any point, the squares on the whole line thus produced and on the part of it produced are together double of the square on half the line bisected and the square on the line made up of the half and the part produced.

7. If one circle touch another internally, the straight line which joins their centres being produced shall pass through the point of contact.

8. The angle at the centre of a circle is double of the angle at the circumference upon the same base, that is, upon the same part of the circumference.

9. Describe a circle about a given triangle.

10. Draw a straight line perpendicular to a plane from a given point without it.

P is a point in the acute angle between two planes. PQ, PR are drawn perpendicular to the two planes respectively. Show that the angle QPR and the angle between the planes are together equal to two right angles.

11. Similar triangles are in the duplicate ratio of their homologous sides.

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12. The sum of the squares on the sides of a rhombus is equal to the sum of the squares on its diagonals.

13. Perpendicular tangents to a parabola intersect on the directrix.

14. If the tangent at any point P of an ellipse meet the major axis in T, and PN be the ordinate, show that $CN.\ CT = CA^2$, where C and A are the centre and vertex of the curve.

15. Show that the focus of an ellipse is at the same distance from either extremity of the minor axis as either extremity of the major axis is from the centre.

16. The normal and tangent at any point P of a hyperbola meet the conjugate axis in g and t. Show that the points P, t, g lie on a circle which passes through the foci.

SATURDAY, JUNE 14, from 2 to 4.30 P.M.

D. Mathematics.

1. Trigonometry.

1. Prove, for any arc of a circle less than the quadrant, that the ratio of the arc to the radius of the circle is greater than the sine of the angle subtended at the centre of the circle.

When θ is infinitesimal, $\sin\theta = \tan\theta = \theta$.

2. Prove that

(1) If $A+B+C = 180°$

$$\frac{\sin B+\sin C-\sin A}{\sin B+\sin C+\sin A} = \tan\frac{B}{2}\tan\frac{C}{2};$$

(2) $$2\tan^{-1}\frac{1}{4} + \tan^{-1}\frac{1}{5} = \frac{\pi}{4} - \tan^{-1}\frac{6}{61}.$$

3. Solve the equation

$$\sqrt{6}\cos\theta - \sqrt{2}\sin\theta = \sqrt{3}+1.$$

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4. Prove that in any triangle ABC, in which the sides are a, b, c; the area, Δ; and A_1, B_1, C_1 are the feet of the perpendiculars from the angles on the opposite sides:

(1) $\tan\frac{A-B}{2} = \frac{a-b}{a+b}\cot\frac{C}{2}$;

(2) Perimeter $A_1 B_1 C_1 = \frac{4abc}{\Delta}\sin A \sin B \sin C$.

5. In the triangle ABC, $a = 225$, $b = 115$, $A = 105°$: find B and C.

$\log 225 = 2{\cdot}3521825$, $\log 115 = 2{\cdot}0606978$,
$L \sin 105° = 9{\cdot}9849438$,
$L \sin 29°35' = 9{\cdot}6934534$, diff. for $1' = 371$.

6. In the triangle ABC, if O is the centre of the inscribed circle, of which the radius $= r$, prove that

(1) $4\cos OAB \cos OBC \cos OCA = \sin A + \sin B + \sin C$.

(2) $r = a\dfrac{\sin\frac{B}{2}\sin\frac{C}{2}}{\cos\frac{A}{2}}$.

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2. Mensuration and Surveying.

$[\pi = \frac{22}{7}.]$

7. How many coins, $1\frac{1}{8}$ in. in diameter, and $\frac{1}{16}$ inch thick, can be made of a ball of silver $1\frac{1}{8}$ in. in diameter?

8. A pontoon is constructed in the form of a cylinder, with conical ends; the diameter of the cylinder is $3\frac{1}{2}$ feet; its length is 12 feet; and the extreme length of the pontoon is 16 ft. 8 in. Find the area of the surface.

9. Plan and find the area of a field from the following notes:—

	Links	
	To B.	
F. 144	1500	
E. 0	900	
D. 288	600	
	450	96 C.
	From A	

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3. Algebraic Geometry.

10. Find the condition that the two straight lines

$$A_1x+B_1y+C_1=0,\ A_2x+B_2y+C_2=0$$

may be perpendicular to one another.

Through the point P (2, 3) two straight lines are drawn, inclined to the axis of x at angles of 45° and 135° respectively: find the equations of the straight lines which connect each one of the points in which the axis of x is cut by one of the lines with that in which the axis of y is cut by the other.

11. Find the equation of the chord which connects two given points in the circumference of a circle; and thence derive the equation of the tangent at a given point.

Shew that there are in general four common tangents to two circles; account for there being sometimes less than four; and find the equations of the common tangents to

$$x^2+y^2=9a^2,\ (x-4a)^2+y^2=a^2.$$

12. An ellipse being defined as the locus of a point the sum of whose distances from two fixed points is constant, find its equation.

Shew that the tangent at the extremity of the latus rectum meets the axis minor produced where the auxiliary circle meets it.

13. Define a parabola, and the axis of a parabola; and prove that all diameters are parallel to the axis.

Find the equation of the locus of the intersection of the normal to the parabola $y^2=4ax$ with a perpendicular upon it from the vertex.

14. Express the general equation of a conic in polar coordinates; and prove that the ratio of the rectangles contained by the segments of two chords through the pole is constant, whatever be the position of the pole, if the directions of the chords are constant.

What curve is represented by

$$r^2\left(\frac{\cos\theta}{a}-\frac{\sin\theta}{b}\right)^2-2r\left(\frac{\cos\theta}{a}+\frac{\sin\theta}{b}\right)+1=0?$$

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FRIDAY, JUNE 13, from 5.30 to 8 P.M.

D. Mathematics.

I. Mechanics and Mechanism.

1. Prove the 'parallelogram of forces,' either by direct demonstration or by derivation from the 'parallelogram of velocities.'

If three forces, represented in direction and magnitude by the straight lines which join the vertices of a triangle to the centre of the inscribed circle, are in equilibrium, the triangle must be equilateral.

2 The moment of the resultant of any two converging forces about a point in their plane is equal to the algebraical sum of the moments of the forces.

A particle of given weight W rests against the circumference of a smooth circular plate, whose plane is vertical; a string, which is attached to the particle, passes over a pulley placed vertically above the highest point of the circle and supports a weight P; in the position of rest the string is inclined at an angle of 30° to the vertical, and the distance of the particle from the pulley is equal to the radius of the plate: find P, and the pressure on the curve, in terms of W.

3. Gravity being a central force, on what principle is the position of the centre of gravity of any material system regarded as a centre of parallel forces?

$ABCD$ is a quadrilateral figure, AB being parallel to CD; E, F are the middle points of AB and CD; $AB = a$, and $CD = b$: prove that the centre of gravity of $ABCD$ lies in EF and divides it in the ratio of $2a+b : a+2b$.

4. Explain the construction of a 'wheel and axle,' and find by virtual velocities, or work done, the ratio of the power to the weight.

What mechanical advantage is obtained by using an axle consisting of two parts of different diameters and suspending the weight from a pulley hung by a rope, the ends of which pass in different directions round the two parts of the axle respectively?

5. Define the terms—acceleration, unit of force. Find the space described in a given time by a body falling under a given acceleration.

If t, t_1, t_2, &c. are the times of falling freely from rest through spaces s, s_1, s_2, &c.; and $s = s_1 + s_2 +$ &c.; prove that $t^2 = t_1^2 + t_2^2 +$ &c.

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6. Find (1) the range on the horizontal plane through the point of projection of a particle projected with a given velocity at a given angle to the horizon; (2) the time of flight when the angle of projection is 15° and the velocity of projection is that acquired by a body falling freely under gravity through 20 feet.

7. Two balls of given mass, and of given mutual elasticity, impinge directly on one another with given velocities: determine the velocity of each after impact.

If a perfectly elastic ball, moving with a velocity of 10 ft. per second, impinges obliquely on an equal ball at rest, which is also perfectly elastic, at angle of 60° to the line joining the centres of the balls at the moment of impact; find the velocity and direction of motion of each ball after the impact.

8. Describe Attwood's machine.

If two equal weights of 100 lbs. are hung by a string over a smooth pulley, and a weight of 1 lb. is added to one of them; what velocity will they be moving with after 10 seconds?

---

2. Hydrostatics.

9. Prove that when a body floats in equilibrium the weight of the fluid displaced is equal to that of the body.

A spherical ball of radius 2 feet and specific gravity 6·5 is enveloped by a covering of uniform thickness 1 foot and specific gravity 3·8: find the specific gravity of a fluid in which the ball thus enveloped will just float.

10. A cylinder is filled with equal volumes of three fluids which do not mix; the density of the uppermost is s, of the next $3s$, and of the lowest $5s$: find the ratios of the whole pressures on the several portions of the curved surface of the cylinder to one another, and the ratio of their sum to what the whole pressure would be if the fluids were mixed.

11. Describe a common barometer, and state in general terms how it may be used to determine the height of a station above the surface of the earth.

The tube of a barometer is 36 inches in length; on account of some air being in the upper part, the mercurial column in it stands at 27° when it ought to be at 30°: what length of the tube would be filled by the air if it were reduced to atmospheric pressure?

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MONDAY, JUNE 9, from 11 A.M. to 1 P.M.

E. 1. Physics.

[N. B. No Candidate will pass in this subject who does not shew a fair knowledge of (*a*) and of either (*b*) or (*c*). Any Candidate who attempts any part of (*b*) will not obtain credit for any work he may do in (*c*).

All the calculations are to be given at length, and figures should be drawn of the apparatus referred to.]

(*a*)

1. Three forces act upon a point and keep it in equilibrium. Two of them are weights of 10 and 12 lbs. respectively, and the angle between their lines of action is 120°. What is the magnitude and direction of their resultant?

2. Explain the terms *couple, moment of a couple.*

If two parallel forces act upon a rigid body, show that the algebraical sum of their moments about any point in their plane is equal to the moment of their resultant about the same point.

3. To the ends of a string passing over a smooth pulley are fastened masses respectively of 240 and 250 grammes. Assuming $g = 980$ (cm. sec.), find how fast the string is moving at the end of two seconds from the instant when the masses are released.

4. State Newton's laws of motion. Give illustrations of the Second Law.

5. Describe, by the aid of a drawing, Bramah's Hydraulic Press. State the principle on which it acts, and point out how leakage is prevented.

6. State Boyle's Law.

The short limb of a Mariotte's tube contains six cubic inches of air at atmospheric pressure, the cross section of the tube being uniform and equal to one square inch. If the barometer stand at 30 inches, find how much mercury must be poured into the longer limb to reduce the volume of air in the shorter limb to four cubic inches.

(*b*)

1. What are magnetic lines of force?

Explain how iron filings may be used to determine the lines of force due to a bar magnet.

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2. Describe the Plate Electrical Machine, and explain how the prime conductor becomes charged. Why must the rubbers be connected with the ground?

3. An insulated sphere is charged with positive electricity and placed a short distance above the cap of an electroscope. What is the behaviour of the leaves, and how will they be affected when a thick plate of unelectrified glass is interposed between the sphere and the electroscope?

4. Describe and explain the action of a cell of Grove's battery. What advantages has a Grove's cell over a Daniell or a Leclanché cell of the same size?

5. Describe a Tangent Galvanometer.

What is the character of the forces acting upon the needle of a galvanometer when a current is circulating through its coils?

6. Describe the decomposition of acidulated water by a current. Why must the water be acidulated? Why cannot a single cell of Grove decompose acidulated water?

(*c*)

1. Explain the term *coefficient of linear expansion of a substance.* If the coefficient of linear expansion of brass be 0·000018, what is the error at 100° C. of a brass yard measure which is correct at 0°?

2. A litre of air has a mass of 1·293 grammes at 0° C. and 76 cm. pressure. What is the mass of a cubic metre of air at 50° C. and 50 cm. pressure? The coefficient of expansion of air is $\frac{1}{273}$.

3. State the peculiarities of water as regards expansion, freezing, boiling, latent heat, and specific heat.

4. If you wished to compare the specific heats of water and mercury, describe how you would proceed.

5. What is meant by saying that the mechanical equivalent of heat is 1390?

Describe the process by which Joule arrived at this number.

6. State what you know about the spheroidal condition of liquids.

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WEDNESDAY, JUNE 11, from 5.30 to 7.30 P.M.

E. 2. Chemistry.

1. What is meant by saying that elements are monads, dyads, triads, and tetrads? Give instances of each of these classes, citing compounds of the elements named in illustration of the difference between them in this respect.

2. What are the sources from which nitrates are obtained commercially? How is nitric acid prepared, and by what tests is it recognised?

3. Describe the process commonly adopted for the preparation of potassium hydrate, and state how it may be obtained in a pure condition.

If one gram of pure potash be dissolved in water, what weight of pure sulphuric acid must be added to get a neutral solution?

4. Describe a method by which hydrogen gas may be obtained from (1) water, (2) hydrochloric acid, (3) ammonia. What are the usual impurities which accompany this gas, and how may they be removed?

5. What metals are sufficiently volatile to be distilled from the compounds from which they are obtained? By what means is the reduction effected in each case?

6. How can the composition of water *by weight* be determined? Make a sketch of the apparatus required, and mention any precautions to be observed in conducting the experiment.

7. Describe the preparation of the ammonium sulphide used in qualitative analysis. What reaction takes place when this reagent is added to solutions of (1) dilute hydrochloric acid, (2) chrome alum, (3) common alum, (4) ferric chloride?

8. Calculate the simplest formula for a salt having the following percentage composition:—

$$\begin{aligned} Na &= 32{\cdot}78 \\ Al &= 13{\cdot}06 \\ F &= \underline{54{\cdot}16} \\ & \ 100{\cdot}00 \end{aligned}$$

Give the details of the work—Na = 23, Al = 27·5, F = 19.

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THURSDAY, JUNE 12, from 5.30 to 7.30 P.M.

E. 2. Chemistry.

(*Practical Examination.*)

The tubes marked I and II contain single substances consisting of one metallic, and one non-metallic radical.

The tube marked III contains a double salt.

The tube marked IV contains a mixture of two substances.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were :—I. Black Mercury Sulphide. II. Ammonium Oxalate. III. Magnesium and Ammonium Phosphate. IV. Bismuth Subnitrate and Lead Carbonate.

SATURDAY, JUNE 14, from 9 to 11 A.M.

E. 3 (*a*). Botany.

[N.B. Candidates are recommended to pay special attention to the first three questions.]

1. Describe in botanical language the specimens A and B, and refer them to their orders in the natural system.

2. Describe as many contrivances as occur to you by which plants climb. Where parts of plants are modified for that purpose distinguish clearly what those parts theoretically are.

3. Write an account of the main characters of any two of the following orders:—Liliacæ, Saxifragaceæ, Cruciferæ, Umbelliferæ, Labiatæ, Leguminosæ.

4. What is protoplasm? Explain its bearing on the growth and life of a plant. How can it be best studied in a plant, and what does it look like under the microscope?

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5. What are Bacteria? Write an account of their appearance under the microscope, and describe the changes which they are supposed to occasion in various substances.

6. Describe the leaves and inflorescence of the carrot, daisy, hyacinth, borage, foxglove, vine.

7. Give a full account of Chara, its structure, mode of growth, and reproduction.

The specimens were:—Saponaria ocymoides and Lesthenia glabrata.

SATURDAY, JUNE 14, from 9 to 11 A.M.

E. 3 (*b*). Zoology.

[Do not attempt more than five questions.]

1. Illustrate by an account of *Amœba* the characters and properties of living matter.

2. How does a *Hydra* obtain its food, and how does it digest it?

3. Write a general account of the structure of the Starfish.

4. Give a general account of the organs of respiration of a Crayfish and of a Cockroach.

5. Describe the organs by which a Frog is purified of its nitrogenous waste.

6. What are the resemblances and what the differences between the heart of a Pigeon and of a Rabbit?

7. What is haemoglobin, and what is its function?

SATURDAY, JUNE 14, from 9 to 11 A.M.

E. 3 (*c*). Geology and Mineralogy.

1. What is the chemical composition and mode of origin of Rock Salt?

2. Describe (with instances) the differences between Plutonic and Volcanic rocks.

3. What are the evidences of the glacial period in Great Britain?

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4. Describe the formation of Stalagmite and Stalactite.

5. Give the divisions of the primary strata.

6. What is a metamorphic rock? Give instances.

7. In what strata do mammals first appear? To what group of existing mammals are they most allied?

8. What are Belemnites, and in what formations are they found?

9. Of what formations are the following fossils characteristic? What are their nearest allies among living animals?

Lithostrotion basaltiforme	Calymene blumenbachii
Nummulites lævigata	Hymenocaris vermicauda
Iguanodon mantelli	Gryphæa incurva
Thecosmilia annularis	Voluta lamberti
Galerites albo-galerus	Ostrea bellovacina.

10. Name and describe the rocks, minerals (ABCD) and fossils (EFHI) giving the chemical composition of the minerals, the mineral constituents of the rocks, and the geological age of the fossils, with some account of their position in the animal kingdom.

The specimens were :—A. Serpentine. B. Quartzite. C. Mica. D. Galena. E. Echinobrissus scutalus. F. Ammonites cordatus. H. Terabstula maxillata. I. Trigonia impressa.

ONE HOUR AND A HALF ALLOWED.

F. 1. Drawing from the Solid.

Make a shaded drawing of the objects placed before you.

In this Exercise the Candidate must give careful attention to the gradations of shade on the rounded surfaces, and to justness of contour, rather than to mechanical perfection in the execution. Any method of shading may be employed, but the modelling should be expressed entirely by differences of depth in shade, and not in any degree by the direction of lines. Exaggeration of darkness is particularly to be avoided.

The objects were :—a book, a sphere, and a jam-pot.

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WEDNESDAY, JUNE 11, from 5.30 to 7.30 P.M.

F. 2. Drawing in Perspective.

In a straight wall which is parallel to the picture-plane and 8 ft. distant from it, is a rectangular opening or gateway 16 ft. wide and 14 ft. high. The side of this which lies to the left of the spectator is 4 ft. distant from his centre of vision, and the other is, in consequence, 12 ft. to the right.

To these sides are attached two doors, each 14 ft. × 8 ft., which open outwards towards the spectator. The one on the right is at right angles to the picture-plane; the other makes 45° with it, having been opened through an angle of 135°.

Through the open gateway portions of straight walls, forming two of the boundaries of a square court, are visible; one facing the spectator and parallel to the picture-plane, the other at right angles to it. The former is 36 ft. distant from the plane of the picture, and the latter stands 14 ft. to the right of the centre. Both walls are 17 ft. high.

Through the farthest side of the quadrangle facing the spectator is an arched gateway 12 ft. wide, the top of which is a semicircular arch rising at the crown to a height of 12 ft. from the ground; its centre being 2 ft. to the right of the centre of vision.

In the wall on the right-hand side of the quadrangle is a similar gateway of the same dimensions, the nearest edge of which is 18 ft. within the picture. The thickness of the walls is 2 ft., and of the doors 6 inches. Give the perspective representation of this.

(Scale ¼ inch to the foot. Distance of spectator 28 ft. Height of eye 4 ft.)

THREE HOURS ALLOWED.

F. 3. Drawing in Colour from a Natural Object.

A common tin coffee-pot, a copper saucepan lid, and a white tea-cup are to be placed on a table or board covered with green baize. The lid, with its handle outwards, leans against the coffee-pot a little to the left of the middle, concealing about half the width of the pot from the spectator. The cup stands by the coffee-pot a little to the right and in front of it, so as to interrupt its outline without hiding much of its surface.

Make a drawing in colour of these objects.

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ONE HOUR AND A HALF ALLOWED.

F. 4. Drawing from Memory.

Make a drawing from memory of a teapot and a cup and saucer standing on a rectangular tray.

These objects should be represented as being below the level of the eye, as a mere elevation or side view will not be accepted.

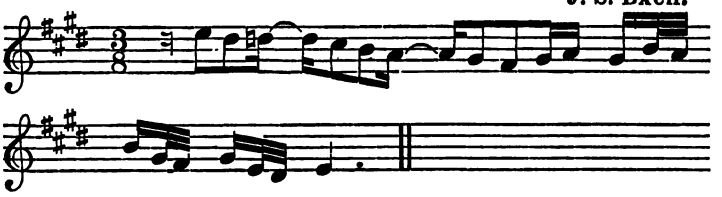
G. Music.

FRIDAY, JUNE 13, from 5.30 to 7.30 P.M.

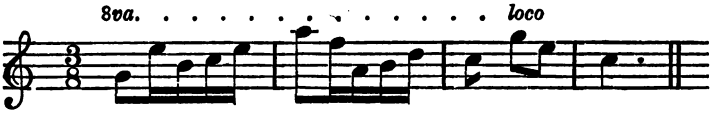
[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. Add the bars to the following passage:—

J. S. BACH.



2. Write out the following passage in notation which dispenses with the signs 8*va.* and *loco.*



3. Write down the ascending and descending scale of D minor in its various forms. Write down also the *Tonic* major scale. Use accidentals where necessary, but do not prefix the key signature.

4. What do you understand by the terms Appoggiatura; da capo; ritenuto; dominant; leading note?

5. Distinguish clearly between (1) Common Time and Triple Time, (2) Simple Time and Compound Time.

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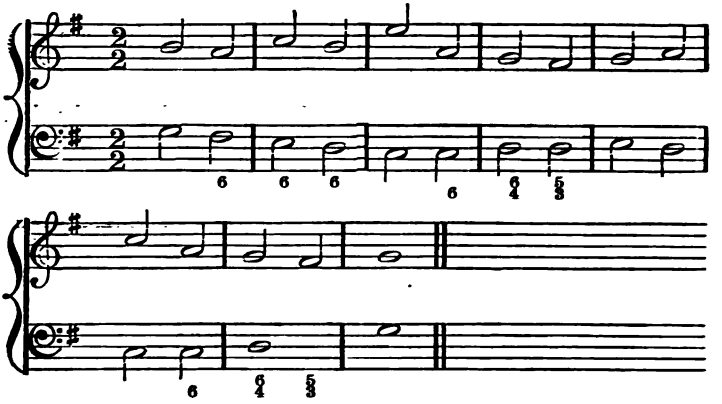
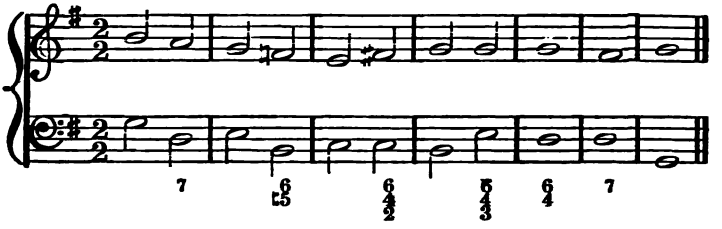
6. Add an Alto and a Tenor part to the following exercise on the Common Chord and its inversions, making it into music in four parts:—



[This question (No. 6) and the following (No. 7) may be answered in 'short score,' that is, on two staves (treble and bass), but extra marks will be allotted if they are written out in open score with the proper clefs.]

7. Add an Alto and a Tenor part to the following exercise on the Dominant Seventh and its inversions, making it into music in four parts:—



8. How many principal subjects are there as a rule in the first movement of a Sonata, and in what keys do they generally appear when the Sonata is in a major key?

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UNIVERSITY OF OXFORD.

LOCAL EXAMINATIONS.

PAPERS OF THE EXAMINATION

HELD IN JULY 1884,

WITH

LISTS OF THE DELEGATES AND THE EXAMINERS
AND THE REGULATIONS AND NOTICES,
PREFIXED.

OXFORD:
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1884.

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THE STATUTE

AS APPROVED BY CONVOCATION, MAY 8, 1883.

Sectio IV. *Of the Delegates of Local Examinations.*

§ 1. *Of the number of the Delegates and of the Report to be made to Convocation.*

1. For the purposes of this Statute there shall be a Delegacy consisting of the Vice-Chancellor and Proctors and eighteen Members of Convocation elected as follows, namely, six by the Hebdomadal Council from its own number, six by the Congregation of the University, and six by the Vice-Chancellor and Proctors, each holding office for six years and re-eligible. Of the eighteen elected Members three in each section shall vacate office immediately after each triennial election to the Hebdomadal Council. Vacancies at any time before the expiration of the proper period shall be supplied only to the end of such period.

2. The Delegates shall make a report of their proceedings every year to Convocation.

§ 2. *Of the Local Examinations.*

1. There shall be Examinations once at least in every year of persons who are not Members of the University, and who on the 1st day of July in the year in which the Examinations are held shall not have attained the age of 16 and 18 years respectively.

2. The Delegates shall have power to determine the date, places, subjects, and mode of examination, and to grant certificates to those who shall have satisfied the Examiners: provided always that every Candidate shall be examined in Religious Knowledge unless the Parents or Guardians of any Candidate object to such examination. The title of Associate of Arts shall be given to those Candidates who shall have passed the Senior Examination.

3. The Delegates shall have power to grant to any Candidate in the Senior Examination who shall have satisfied the Examiners

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a certificate that he has shown sufficient merit to be excused from Responsions, provided that he has shown such proficiency in Latin, in Greek, and in the elements of Mathematics as would have enabled him if he had offered himself to be examined in Responsions to satisfy the Masters of the Schools in each of those subjects.

4. The Delegates shall have power to admit to the Senior Examination persons who intend to present themselves for the First Examination for the Degree of Mus. Bac., even though they shall have attained the age of 18 years, and also to admit to the Senior or Junior Examination persons who intend to become Medical Students or Law Students, even though they shall have attained the age of 18 or 16 years respectively. Such persons shall not receive any certificate from the Delegates, nor shall they receive the title of Associate of Arts. The Delegates shall keep a register of all persons who satisfy the Examiners under this clause, and shall at the request of such persons notify the fact of their having so satisfied the Examiners to the Professor of Music, the General Medical Council, or the Council of the Incorporated Law Society, or other the proper authority for the time being, as the case may be.

5. The names of the Examiners appointed by the Delegates to conduct the Examinations shall be submitted to Convocation for approval. If any Examiner so approved die, resign, or be deposed from his office, his place shall be supplied by another person nominated by the Delegates and approved by the Vice-Chancellor and Proctors.

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THE DELEGATES.

Official.	The Vice-Chancellor, The Senior Proctor, The Junior Proctor.
Members of the Hebdomadal Council.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. H. F. Pelham, M.A., Fellow and Tutor of Exeter College. Rev. W. Ince, D.D., Canon of Christ Church, Regius Professor of Divinity. Rev. B. Price, M.A., Fellow and late Tutor of Pembroke College, Sedleian Professor of Natural Philosophy. Rev. J. R. King, M.A., Fellow and Tutor of Oriel College.
Elected by Congregation.	Rev. J. Griffiths, D.D., Wadham College, Keeper of the Archives. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. E. Chapman, Esq., M.A., Fellow and Tutor of Magdalen College. Rev. G. Rawlinson, M.A., late Fellow and Tutor of Exeter College, Camden Professor of Ancient History. J. E. T. Rogers, Esq., M.A., Worcester College. E. B. Poulton, M.A., Jesus College, Lecturer of Keble College.
Nominated by the Vice-Chancellor and Proctors.	Rev. E. Moore, D.D., Principal of St. Edmund Hall. Rev. S. Edwardes, M.A., Fellow of Merton College. Alfred Robinson, Esq., M.A., Fellow and Lecturer of New College. Rev. J. F. Bright, M.A., Master of University College. Rev. John Percival, M.A., President of Trinity College. Rev. H. B. George, M.A., Fellow and Tutor of New College.

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N.B. The University Fee payable by Senior Candidates has been reduced from £1 10*s.* to £1 (p. 10).

The substitution of July 1st for April 30th, as the day from which the age of Senior Candidates is to be reckoned, will not take effect until 1885, and consequently any person born on or after April 30th 1866 may be received as a Senior Candidate in the Examinations to be held in 1884 (p. 5).

Oxford Local Examinations.

REGULATIONS

AND

TIME TABLE

FOR THE YEAR

1884.

Attention is called to the changes in the Regulations with respect to the Examinations in English Grammar and Composition (Juniors), p. 2; in Religious Knowledge (Seniors and Juniors), pp. 3, 5; in Latin and Greek (Juniors), pp. 3, 4; in Botany and Zoology (Seniors), pp. 7, 8; Mechanics and Music (Seniors and Juniors), pp. 4, 5, 6 (note); and also to the dates at which the Examinations will be held in 1884, p. 2, and the notice with respect to combined School and Local Examinations, p. 9.

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OXFORD LOCAL EXAMINATIONS.

REGULATIONS FOR THE YEAR 1884.

Two Examinations will be held in the year 1884, commencing on Monday, June 9, and Monday, July 14, respectively.

The Examinations at each Centre will be held at either of these times or both, as the Local Committee may desire. Notice of the time or times at which it is desired that the Examinations should be held must be given to the Delegacy before Feb. 1st, 1884, and the Local Committee must guarantee a payment of £25 for each Examination held at the Centre, in case the Fees paid by the Candidates at each Examination so held fall below that sum.

EXAMINATION OF JUNIOR CANDIDATES.

(*For Certificates.*)

Any person of either sex born on or after July 1, 1868, may be received as a Candidate. No one born before that day will be received*.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **Reading aloud** a passage from some English author.
2. **Writing from Dictation.**
3. **English Grammar and Composition.** Passages will be set for parsing, paraphrase, and interpretation. Candidates will be required also to write a short English Composition.
4. **Arithmetic.** Numeration, the first Four Rules, simple and compound, Reduction, Vulgar and Decimal Fractions, and the Single Rule of Three.

N.B. The quality of the handwriting and the spelling will be taken into account.

* Persons who intend to become Medical or Law Students can be admitted above the age of 16, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the General Medical Council or the Council of the Incorporated Law Society, or other the proper authority for the time being, of their success.

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PART II.

The Examination will comprise the following subjects:—
1. **Religious Knowledge.** 2. **English.** 3. **Latin.** 4. **Greek.** 5. **French.** 6. **German.** 7. **Mathematics.** 8. **Mechanics and Mechanism.** 9. **Chemistry.**

Every Candidate will be required to satisfy the Examiners in three at least of these subjects. No Candidate will be examined in more than six. All Candidates must be examined in at least one of the divisions of Religious Knowledge, unless their Parents or Guardians object to this part of the Examination.

1. **Religious Knowledge.** (*a*) The Book of Joshua and Judges i–xviii. (*b*) The Gospel according to St. Mark. (*c*) The Acts i–xii. (*d*) The Catechism.

Opportunity will be given to those Candidates who desire it for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

2. **English.** (*a*) The Outlines of English History from the Norman Conquest to the Battle of Waterloo, with special questions on the period from 1760–1800; (*b*) Shakspeare's "Macbeth*"; (*c*) Physical, Political, and Commercial Geography. An Outline Map of one of the following countries will also be given to be filled up, viz. England and Wales, Ireland, Italy, or North America.

   No Candidate will pass in **English** who does not satisfy the Examiners in two of the three divisions (*a*), (*b*), (*c*).

3. **Latin.** Passages will be given from Caesar, Bell. Gall. V, VI. and from Virgil (Aen. VI) for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

   An easy passage from some other Latin author will be set for translation into English. A few easy English sentences to illustrate common Latin constructions, and a short passage from some English writer, will be given for translation into Latin.

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* Aeschylus, Prometheus Vinctus, price 2*s.*; Homer, Od. II, price 1*s.* 6*d.*; Shakspeare's Macbeth, price 1*s.* 6*d.*; Burke's Reflections on the French Revolution, price 5*s.*; Corneille's Horace, price 2*s.* 6*d.*; Schiller's Wilhelm Tell, price 3*s.* 6*d.* (each with Introduction and Notes); are published in the Clarendon Press Series; and may be obtained of Mr. H. Frowde, Oxford University Press Warehouse, 7 Paternoster Row, London; and at the Clarendon Press Depository, 116 High Street, Oxford.

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4. **Greek.** Passages will be given from Xenophon Cyrop. V, and from Homer Od. II for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

An easy passage from some other Greek author will be set for translation into English.

5. **French.** A passage will be given from Corneille's "Horace"* for translation into English, with grammatical and general questions. A passage from a French Newspaper will be set for translation into English, and English sentences for translation into French.

6. **German.** A passage will be given from Schiller's "Wilhelm Tell," Acts i–ii * for translation into English, with grammatical and general questions. A passage from a German Newspaper will be set for translation into English, and English sentences for translation into German.

7. **Mathematics.** No Candidate will pass in this subject who does not shew a fair knowledge of Euclid, Books I and II, and of Algebra to Simple Equations including Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, and Simple Equations containing one or two unknown quantities and problems producing such equations.

Questions will also be set in the following subjects: (1) Euclid III, IV, VI; (2) Quadratic Equations, Progressions, and Proportion; (3) Plane Trigonometry, including Solution of Triangles, and the use of Logarithms; (4) Mensuration. No credit will be given for a slight knowledge of any of these subjects.

The answers should be illustrated by diagrams, where these can be introduced.

8. **Mechanics and Mechanism.** The Questions will be of an elementary character, extending, in Statics, to the Composition and Resolution of Forces, the determination of the Centre of Gravity in simple cases, and the Mechanical Powers; in Dynamics, to Impact and Collision, the Motion of Falling Bodies, and Attwood's Machine; in Hydrostatics, to the Pressure of Fluids, and the ordinary Hydrostatical and Pneumatical Instruments.

The answers should be illustrated by diagrams, where these can be introduced.

Mechanics and Music may not be taken together.

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* See note on p. 3.

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9. **Chemistry,** including the elementary facts of Chemistry. Substances will be given to be tested, each containing not more than one acid and one base. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

Candidates may also offer themselves for examination in

1. *a.* Drawing from the Flat.
   b. Drawing from the Solid, with light and shade.
2. Music. Questions will be set on Notation, Intervals, Scales, Time, and Rhythm, Signs and Marks of Expression, the Common Chord and its inversions, the Dominant Seventh and its inversions. A short and simple figured bass may be given to be harmonized in accordance with elementary rules.

Music and Mechanics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions; those in the First and Second Divisions will be placed in order of merit; those in the Third Division alphabetically.

Certificates will be issued to the successful Candidates, specifying the subjects in which they satisfied the Examiners, and the Division in which their names are placed.

Lists will be published of the forty Candidates arranged in order of merit who most distinguish themselves in each of the subjects from 1 to 9 inclusive, provided that they also obtain Certificates.

EXAMINATION OF **SENIOR CANDIDATES.**

(*For the Title of Associate in Arts.*)

Any person of either sex born on or after April 30, 1866, may be received as a Candidate. No one born before that day will be received *.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **English Grammar, Analysis, and Composition.**
2. **Arithmetic.**

N.B. The quality of the handwriting and the spelling will be taken into account.

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* Persons who intend to become Candidates for the Degree of Bachelor of Music or Medical Students or Law Students can be admitted above the age of 18, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the Professor of Music, the General Medical Council or the Council of the Incorporated Law Society or other the proper authority for the time being, as the case may be, of the success of such Candidates.

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Part II.

The Examination will comprise the following Sections:—

A. **Religious Knowledge.** B. **English.** C. **Languages.** D. **Mathematics.** E. **Natural Science.** F. **Drawing.** G. **Music.**

Every Candidate will be required to satisfy the Examiners in two at least of the Sections A, B, C, D, E, but if both A and B are offered they will also be required to satisfy the Examiners in either C, D, or E. No Candidate will be examined in more than five of the Sections A, B, C, D, E, F, G.* All Candidates must be examined in one at least of the divisions of Religious Knowledge, unless their parents or guardians object to this part of the Examination.

Section A.—Religious Knowledge.

(1) Joshua, Judges i–xviii; (2) The Gospel according to St. Mark; (3) The Acts, i–xii; (4) The First Epistle to the Corinthians; (5) The Catechism, the Morning and Evening Services, and the Litany, and the outlines of the History of the Book of Common Prayer.

Opportunity will be given to those Candidates who desire it for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

Section B.—English.

1. **English History** during the reign of George III, and the outlines of the History of **English Literature** during the same period, together with the general outlines of English History from the Norman Conquest to the Battle of Waterloo.
2. **Shakspeare's** "Macbeth†", and **Burke's** "Reflections on the French Revolution†."
3. **Physical, Political, and Commercial Geography,** with the filling up of an Outline Map of England and Wales, Ireland, Italy, India, or North America.
4. The elements of **Political Economy.**

No Candidate will pass in this Section who does not shew a fair knowledge of two of these four divisions. No Candidate will be examined in more than three of them, or be allowed to offer 3 and 4 together.

Section C.—Languages.

1. **Latin.** 2. **Greek.** 3. **French.** 4. **German.** 5. **Italian.**

No Candidate will pass in this Section who does not shew a fair knowledge of one of these languages. No Candidate will be examined

* Candidates may not offer both French and Italian; or both Music and Mechanics; or both Greek and Botany, Zoology or Geology. † See note, page 3.

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in more than four of them. French and Italian may not be taken together.

Candidates who offer Latin will be examined in (1) Cic. De Amicit., Catil. I, and in (2) Virgil Aen. VI, and those who offer Greek in (1) Xen. Cyrop. IV, V, (2) Aesch. Prom. Vinct.*. In other languages no books are prescribed.

In each of the five languages questions on grammar will be set, and passages will be given both from unprepared books for translation into English, and of English for translation into Latin, French, German, or Italian, as the case may be.

Section D.—Mathematics.

Pure Mathematics to **Algebraical Geometry** inclusive, **Mechanics** (including Mechanism), and **Hydrostatics.**

No Candidate will pass in this Section who does not shew a fair knowledge of Four Books of Euclid, and of Algebra to the end of Quadratic Equations, including Addition, Subtraction, Multiplication, and Division of Algebraical Quantities (including simple irrational quantities expressed by radical signs or fractional indices), Greatest Common Measure and Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, Quadratic Equations containing one unknown quantity, questions producing such equations, and the simplest properties of Ratio and Proportion.

The answers should be illustrated by diagrams, where these can be introduced.

Mechanics and Music may not be taken together.

Section E.—Natural Science.

1. **Physics.**

   (*a*) The elementary properties of matter in its solid, fluid, and gaseous forms; density, mass, gravity, weight, specific gravity, and inertia; composition of two forces; centre of gravity; pressure of fluids; laws of motion; construction and use of simple mechanical, hydrostatical, and hydraulic machines.

   (*b*) Elements of Heat.

   (*c*) Elements of Electricity and Magnetism.

No Candidate will pass in this subject who does not shew a fair knowledge of (*a*), and of either (*b*) or (*c*). No Candidate will be examined in (*b*) and (*c*) together.

2. **Chemistry,** including the facts and general principles of Chemical Science. There will be a practical examination in the elements of Analysis. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

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* See note, page 3.

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3. (*a*) **Botany,** including Elementary Vegetable Physiology and the types of the chief divisions of the Vegetable Kingdom.
(*b*) **Zoology,** including Elementary Animal Physiology and the types of the Animal sub-kingdoms.
(*c*) **Geology and Mineralogy.**

No Candidate may offer more than one of these subjects (*a*), (*b*), or (*c*) No part of (3) may be taken with Greek.

No Candidate will pass in this Section who does not shew a fair knowledge of one at least of the divisions 1, 2, 3. In all cases a practical acquaintance with the subject-matter will be indispensable. The answers should be illustrated by diagrams and drawings, where these can be introduced.

Section F.—Drawing.

1. **Drawing from the solid,** with light and shade.
2. **Drawing in perspective.**
3. **Drawing in colour** from a natural object.
4. **Drawing from memory.**

No Candidate will pass in this Section who does not satisfy the Examiners in Drawing from the Solid.

Section G.—Music.

In addition to a thorough knowledge of the subjects prescribed for Junior Candidates, the Seniors must shew an acquaintance with the chords of the Added Ninth and Minor Ninth and their inversions, and must be able to harmonize a figured bass introducing these chords. They may be called upon to add three parts to a given melody.

Music and Mechanics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions, the First and Second Divisions in order of merit, the Third in numerical order under the several centres.

Lists of those who distinguish themselves will also be published for each of the sections A, B, C, D, E, F, G, arranged in two Divisions. The names in each First Division will be placed in order of merit; those in each Second Division alphabetically.

Certificates, signed by the Vice-Chancellor, will be issued to the successful Candidates, conferring the title of Associate in Arts, and specifying the subjects in which they satisfied the Examiners, and the Division or Divisions in which their names are placed.

Those Candidates who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from Responsions, may receive a Certificate from the Delegates to that effect.

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Candidates will be examined in Oxford, and in such other places as the Delegates may appoint. A list of the Local Centres at present appointed will be found on the next page.

An application to have a place appointed for this purpose should come to the Delegates from a Local Committee: such Committee being prepared to guarantee a payment of £25 (in case the Fees paid by the Candidates fall below that sum) and to undertake all those expenses which are occasioned by the Examination being *Local*, that is, by the Candidates being examined at that particular place instead of coming to Oxford for the purpose. Those expenses are mainly the following: the cost of providing suitable rooms for the Examination; the charges incurred by the Superintending Examiner (appointed by the Delegates) in travelling, lodging, and board; postage; carriage of parcels from and to Oxford; and some stationery. Each Committee should appoint a Local Secretary. Applications must be made, and notice of the discontinuance of old Centres must be given, before the 1st of February, 1884.

Girls may be examined at any place where boys are examined, and at such other places as the Delegates may appoint. But in every case the Delegates must first be satisfied, 1. That there is a Local Committee of ladies, who will efficiently superintend the examination of the girls; 2. That such Committee will see that girls who do not live in the place find suitable lodging and accommodation; 3. That the examination room for the girls is quite separate from that intended for the boys.

*** The Local Examinations may, if desired, be combined with a School Examination held under the direction of the Delegacy, and any School so making use of the Local Examinations may be constituted a Special Local Centre. The Regulations under which combined Local and School Examinations will be held may be obtained from the Secretary to the Delegacy.

Printed Forms, on which Candidates are to make application, will be prepared by the 1st of March, and may be obtained from the **Local Secretaries,** whose names are subjoined; for the June Examination until the 31st of March, and for the July Examination until the 30th of April, *after which dates none will be issued.* The Forms for Junior and Senior Candidates are distinct, and applications should state which Forms are required.

For examination *in Oxford* the Forms may be obtained from G. E. Baker, Esq., Clarendon Building, Oxford.

The Forms, duly filled up, must be *returned* to the several Local Secretaries for the June Examination by the 5th of April, and for the July Examination by the 3rd of May. No Candidate's name will be received at any place after those days.

Fees. Every Candidate is required to pay to the University a Fee of 20*s*. At every Centre except Oxford there is also a Local Fee. No Fee can be returned under any circumstances, or be carried to the credit of a Candidate at a subsequent Examination.

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LOCAL CENTRES AND SECRETARIES.

Girls may be received for Examination in Oxford and at those Centres which are marked with. Places marked thus † are* SPECIAL LOCAL CENTRES, *to which Candidates who are not members of the particular Schools may be admitted at the discretion of the School authorities.*

*BATH	(*Boys*)	H. D. Skrine, Esq., Guildhall, Bath. F. Ernest Shum, Esq., 3 Union Street, Bath.
	(*Girls*)	Mrs. Jeffery, 9 Norfolk Crescent, Bath.
†BERKHAMSTED		Rev. E. Bartrum, King Edward VI School, Berkhamsted. W. H. Fricker, Esq., King Edward VI School, Berkhamsted.
†*BIRMINGHAM		G. W. Hickman, Esq., 20 A Temple Row, Birmingham.
,,		Rev. E. F. M. MacCarthy, King Edward VI School, Fiveways, [Birmingham.
BOSTON		R. W. Millington, Esq., Boston.
*BRIGHTON	(*Boys*)	Barclay Phillips, Esq., 75 Lansdowne Place, Brighton.
	(*Girls*)	Mrs. H. Martin, 5 Powis Square, Brighton.
*BRISTOL	(*Girls*)	Miss Cocks, High School for Girls, Redland, Bristol.
*CHELTENHAM	(*Boys*)	T. Style, Esq., Cheltenham Grammar School, Cheltenham.
	(*Girls*)	Mrs. Mugliston, Newick House, Cheltenham. Miss Beale, Ladies' College, Cheltenham.
†CROSBY		Rev. S. C. Armour, Merchant Taylors' School, Crosby, Liverpool.
*CRYSTAL PALACE	(*Girls*)	Mrs. Robert Hardwicke, School of Art, Science, and Literature, Crystal Palace, S.E.
DOWNSIDE		Rev. H. E. Ford, St. Gregory's College, Downside, Bath.
†KINGSBRIDGE		J. H. Square, Esq., Kingsbridge, S. Devon.
*LEEDS		Rev. Dr. Henderson, Grammar School, Leeds.
*LEICESTER		C. R. Crossley, Esq., Leicester.
*LINCOLN		Rev. W. W. Fowler, School House, Lincoln.
*LIVERPOOL	(*Boys*)	E. F. Evans, Esq., Orrell Park, Aintree, Liverpool.
	(*Girls*)	Miss M. Calder, 49 Canning Street, Liverpool.
*LONDON	(*Boys*)	H. A. Tilley, Esq., 42 Queen Square, Bloomsbury.
	(*Girls*)	Miss Vernon, 59 Carlton Hill, N.W.
*LYTHAM	(*Boys*)	E. R. Lightwood, Esq., Pembroke House School, Lytham.
	(*Girls*)	Miss Macdonald, Ladies' High School, Lytham.
*MANCHESTER	(*Boys*)	Rev. T. C. Skeggs, 14 Fitzwarren St., Pendleton, Manchester.
	(*Girls*)	Mrs. Donner, Anson Road, Victoria Park, Manchester.
†*MILTON MOUNT	(*Girls*)	Miss Hadland, Milton Mount School, Gravesend.
†NORTHLEACH		F. Godwin, Esq., Grammar School, Northleach.
*NOTTINGHAM		Rev. C. Yeld, University School, Nottingham.
†*OSWESTRY		O. Owen, Esq., The High School, Oswestry.
†*PETERBOROUGH		Rev. E. J. Cunningham, King's School, Peterborough.
PORTSMOUTH		Rev. E. P. Grant, The Vicarage, Portsmouth.
†*PRESTON	(*Boys*)	Rev. A. B. Beaven, Grammar School, Preston. W. M. Maddox, Esq., Grammar School, Preston.
	(*Girls*)	Miss Carter, High School for Girls, Preston.
*RAMSGATE		Rev. H. L. Fry, 5, Codrington Road, Ramsgate.
*REIGATE		F. G. Johnson, Esq., The Grammar School, Reigate.
*RUGBY	(*Boys*)	H. T. Rhoades, Esq., Clifton Road, Rugby.
	(*Girls*)	Miss Sharp, Horton House, Rugby.
*SALISBURY	(*Boys*)	Rev. H. J. Morton, The Close, Salisbury.
	(*Girls*)	Miss Fawcett, The Close, Salisbury.
*SOUTHAMPTON	(*Boys*)	Rev. J. L. Carrick, Spring Hill, Southampton.
	(*Girls*)	Mrs. Wilberforce, The Deanery, Southampton.
†STRATFORD-ON-AVON		R. F. Currey, Esq., Trinity College School, Stratford-on-Avon.
*STREATHAM HILL		B. Hawkins, Esq., St. Anne's School, Streatham Hill, S.W.
*SWANSEA	(*Boys*)	C. H. Perkins, Esq., 17 Somerset Place, Swansea.
	(*Girls*)	Mrs. Reid, 2, Glanmer Terrace, Swansea.
*TAUNTON	(*Boys*)	Mr. Reginald Barnicott, Parade, Taunton.
	(*Girls*)	Miss Gibson, The Crescent, Taunton.
*THAME		G. Plummer, Esq., Thame Grammar School, Thame.
*TRURO		Rev. G. L. Church, Chacewater Vicarage, Cornwall.
*WARWICK		Rev. W. Grundy, King's Grammar School, Warwick.
*WATFORD		Rev. H. W. Russell, London Orphan Asylum, Watford.

N.B. The words "Oxford Local Examinations" should be written on the covers of all letters addressed to the Secretaries.

The Delegates are prepared to undertake the Examination of Schools. Applications should be made to the Secretary not less than two months before the day on which it is desired that the Examination should commence.

Examination Papers and Annual Reports with Division Lists, 2*s.* each, also the Papers set at the Examination of Women, 1*s.* 6*d.*, and the Report 3*d.*, may be obtained from Messrs. Parker and Co., Oxford, and 6 Southampton Street, Strand, London.

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EXEMPTIONS FROM VARIOUS EXAMINATIONS.

1. **Senior Candidates (Boys)** who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from **Responsions**, and **Senior Candidates (Girls)** who shew sufficient merit in two languages and in Mathematics to be excused from the **First Examination for Women**, receive Certificates from the Delegates to that effect.

2. A **Senior** Certificate enables a person to become a Candidate for the degree of **Bachelor of Music** if he passes in (1) Section B, (2) Latin and one of the other Languages in Section C, (3) Euclid and Algebra.

3. Persons who have passed any of the public Examinations of the University of Oxford, among which are the Local Examinations, are excused the Preliminary Examination for **Barristers**.

4. A **Senior** Certificate satisfies the preliminary requirements of the **General Medical Council** and the **Royal College of Surgeons**, if it includes Latin and Mathematics; a **Junior** Certificate if it includes Latin and Mathematics and one of the following:—Greek, French, German, and Mechanics.

5. Persons who have passed the Oxford Local Examinations are excused the Preliminary Examination before entering into Articles of Clerkship with **Attorneys** and **Solicitors**. The published regulations of the **Law** Society state no special subjects.

6. Any Certificate qualifies the holder to compete for admission to the **National Training School for Teachers in Schools of Art**, if it includes English and either Latin or a modern foreign language.

SCHOLARSHIPS AND PRIZES.

7. **Senior Candidates (Boys).** The Dyke Exhibition, of not less than £60 a year, tenable for four years at the University of Oxford, open to any boy, born on or after April 30, 1866, who is a native of any of the counties of Somerset, Devon, and Cornwall, or has for three years past been resident in any of such counties, or has for two years past been educated at any of the Schools in the same counties, provided that he is, in the opinion of the Governors, in need of pecuniary help to support him at the University, will be awarded to such Senior Candidate as the Governors shall think most deserving, having regard to the results of the Examination to be held in 1884.

8. **Senior Candidates (Girls).** One Scholarship, value Thirty Guineas a year, entitling the holder to **free instruction at Bedford College, London**, tenable for two years from Michaelmas, 1884, is offered by the Trustees of Mrs. Reid's Fund for the Higher Education of Women to the Candidate who shall obtain the highest place in the First or Second Division.

9. **The Royal Geographical Society** offers **two Medals**, one of silver and one of bronze, to the two **Senior** Candidates (boys or girls) who shall give the best answers in Geography, provided that their papers are of sufficient merit.

10. **Junior Candidates (Boys).** The following Scholarships will be offered to Junior Candidates who distinguish themselves sufficiently in the Examinations to be held in June and July next:—

1. *Clifton College.* Value £50 a-year, out of a total for school expenses of £105. Tenable for two years, with a possible augmentation up to £90 in case of need, and if the Scholar intends to proceed to one of the Universities or to enter for the Indian Civil Service. Open to any boy who shall be under 15 years of age on July 1, 1884, and who shall attain distinction in Classics or Mathematics,—preference being given to one who knows Greek.
2. *Felstead School.* Value £30, out of a total of £50 for school charges, including all expenses at the School except for Books, Medical attendance, Drawing, and Music. Tenable while the boy remains at the School. Open to any boy who on July 1, 1884, shall be under 16 years of age, and who shall obtain a Certificate, and pass in Latin and Greek or Latin and French, with distinction in Latin, Greek, or Mathematics.
3. *Haileybury College.* Value £65 a-year out of a total for school expenses of about £90. Tenable for three years, and renewable for a further period of a year. Open to any boy who shall be under 16 years of age on Dec. 31, 1884, and who shall attain distinction in Classics or Mathematics.

The offer will in no case be made (1) to the son of parents in easy circumstances; nor (2) to any boy educated at a school the authorities of which have previously notified to the Delegates that such boy is not a candidate for a Scholarship.

The authorities of the schools which offer Scholarships reserve the right of deciding whether they will accept a candidate whose name is submitted to them.

The continued or extended tenure of any Scholarship is in every case conditional on the Scholar's conduct and progress being satisfactory.

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TIME TABLE FOR 1884.

Monday, June 9. „ *July* 14.	*Tuesday, June* 10. „ *July* 15.	*Wednesday, June* 11. „ *July* 16.	*Thursday, June* 12. „ *July* 17.	*Friday, June* 13. „ *July* 18.	*Saturday, June* 14. „ *July* 19.
11 to 1 Physics. S.	9 to 11 *Arithmetic.* S. J. 11 to 1 *English Grammar* and *Composition.* S. J.	9 to 11 Latin (1st Paper). S. 11 to 1 Latin (2nd Paper). S. 9 to 10.30 Latin (1st Paper). J. 10.30 to 12 Latin (2nd Paper). J.	9 to 10.30 French (1st Paper). S. 10.30 to 12.30 French (2nd Paper). S. 9 to 10.30 French (1st Paper). J. 10.30 to 12 French (2nd Paper). J.	9 to 10.30 German (1st Paper). S. 10.30 to 12.30 German (2nd Paper). S. 9 to 10.30 German (1st Paper). J. 10.30 to 12 German (2nd Paper). J.	9 to 11 Botany. Zoology. Geology. } S. *or* 9 to 11 Greek (1st Paper). S. 11 to 1 Greek (2nd Paper). S. 9 to 10.30 Greek (1st Paper). J. 10.30 to 12 Greek (2nd Paper). J.
2 to 3 Joshua, &c. S. J. 3 to 4 St. Mark. S. J. 4 to 5 Acts. S. J.	2 to 4.30 Geography and Map. S. *or* Political Economy. S. 2 to 4 Geography and Map. J.	2 to 4.30 English History. S. 2 to 4 English History. J. 4 to 4.30 *Dictation.* J.	2 to 4.30 Algebra. S. J.	2 to 4.30 Euclid. S. J.	2 to 4.30 Trigonometry and Mensuration. } S. J.
6 to 7 Catechism. J. Prayer Book. S. 7 to 8 Epistle. S.	5.30 to 7.30 Shakspeare. S. J.	5.30 to 7.30 Chemistry. S. J.	5.30 to 7.30 Practical Chemistry. } S. J.	5.30 to 8 Mechanics. S. J. *or* 5.30 to 7.30 Music. S. J.	

N.B. The letters S. and J. signify Senior and Junior respectively. The times for the exercises in "Drawing" and for "Reading aloud" are subject to the discretion of the Examiner at each place. The times for giving out the Papers at the London and Crystal Palace Centres will be slightly earlier or later, as the case may be, than those stated in this Time Table.

G. E. BAKER,
Secretary to the Delegacy.

OXFORD, Dec. 4, 1883.

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GENERAL NOTICE TO CANDIDATES.

1. **The Examination will commence on Monday, the 14th of July, at 11 a.m.**

2. A Time Table, shewing the hours and subjects of Examination each day, will be sent to every Candidate shortly before the Examination. The same Paper will contain some Directions and Cautions, which Candidates are specially desired to observe.

3. Paper and other writing materials will be provided for the Candidates; but they are expected to bring their own pens.

4. **Candidates in Mathematics,** etc., will be allowed to bring in the usual Mathematical Drawing Instruments; subject however to any limitation which the Examiners may think fit. The usual symbols and abbreviations may be employed in writing Mathematical papers.

5. **Candidates in Drawing** should provide themselves with a Drawing Board measuring about 23 inches by 16, eight Drawing pins, and all other necessary materials, *except paper*, which will be supplied by the University. No instruments of any kind will be allowed, except for the Exercise in Perspective.

6. **Candidates in Chemistry** will receive a Notice, specially addressed to them, containing a list of the Apparatus and of the Re-agents which they are to bring to the Practical Examination.

7. **Candidates in Botany** should bring with them a sharp penknife, two needles mounted in handles, and a magnifying glass.

CENTRES AT WHICH THE EXAMINATIONS WERE HELD IN JULY, 1884.

The Examinations were held in July at the following centres: Berkhamsted (Boys); Birmingham, Boston, Brighton, Bristol (Girls), Cheltenham, Downside (Boys), Leicester, Lincoln, Liverpool, London, Lytham, Manchester, Milton Mount (Girls), Nottingham, Oswestry (Boys), Oxford, Peterborough, Portsmouth (Boys), Preston, Ramsgate, Reigate, Rugby, Salisbury, Southampton, Stratford-on-Avon (Boys), Swansea, Taunton, and Thame. Both Boys and Girls were examined at centres as to which it is not otherwise stated.

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NOTICE TO CANDIDATES IN CHEMISTRY.

For the practical Examination each Candidate is required to provide himself with the necessary re-agents and apparatus.

The following lists, which contain all that is needful according to the usual course of analysis, are intended as a guide to Candidates in making this provision. But each one is at liberty to furnish himself for the Examination with such materials as he has been accustomed to employ.

Re-agents.

Solutions.

Hydrate of Potassium.	Sulphate of Calcium.
Ferrocyanide of Potassium.	Nitrate of Barium.
Carbonate of Sodium.	Sulphate of Magnesium.
Phosphate of Sodium.	Nitrate of Silver.
Bitartrate of Sodium.	Sulphuretted Hydrogen.
Ammonia.	Sulphuric Acid.
Carbonate of Ammonium.	Nitric Acid.
Chloride of Ammonium.	Hydrochloric Acid.
Oxalate of Ammonium.	Acetic Acid.
Sulphide of Ammonium.	Chlorine Water.
Lime Water.	Nitrate of Cobalt.

Solid Substances.

Carbonate of Sodium. Borax. Sulphate of Iron.
Peroxide of Manganese. Bichromate of Potassium. White Starch.

Litmus and Turmeric Papers.

Apparatus.

Three funnels, about $2\frac{1}{2}$ inches diameter.
A dozen test-tubes, about 6 inches long by $\frac{5}{8}$ inch diameter.
Another dozen test-tubes, about 6 inches long by $\frac{7}{8}$ inch diameter.
A packet of cut filters, about $3\frac{3}{4}$ inches diameter.
A stand for test-tubes, to hold 24 tubes.
A glass stirring rod, about 8 inches long.

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A small retort stand to support the funnels.

A spirit lamp, to contain about 3 oz., provided with a wick and with 5 oz. of spirit in a bottle.

A washing bottle, holding about 1 pint, to be filled at the time of the Examination.

Two pieces of platinum foil, about 2 × 1 inch, and two platinum wires, about 3 inches long.

A mouth blowpipe.

Two or three pieces of hard glass tubing, and of charcoal, for blowpipe experiments.

A bent tube, fitted with a cork, for conveying a gas from one test-tube to another.

A pair of tongs to hold the platinum foil.

A penknife or spatula.

A cloth.

A test-tube brush.

The room in which the Examination is to be held will be opened half an hour before the time, for the purpose of allowing Candidates to unpack and arrange their re-agents and apparatus. Distilled water and matches will be provided for them.

N. B. The attention of Candidates is called to the importance of writing out their analytical notes in a proper manner. The Examiner can judge of their knowledge and work only from these notes, and cannot give any one credit for a complete analysis if any steps or important statements are omitted in the description of it. The account of the examination of each substance should be written out before proceeding to the next, so that the actual experimenting and the recording of experiments may be carried on as far as possible together. Candidates are cautioned against the common practice of wasting their limited time in preliminary random experiments with the blowpipe. They should first discover by a systematic analysis what the bases are and then confirm their conclusions by as many special tests as possible including those made by the blowpipe.

Oxford, February 15, 1884.

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EXAMINERS.

Revising.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. Rev. W. W. Jackson, M.A., Fellow of Exeter College. E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Rudiments of Faith and Religion.	Hon. and Rev. W. H. Fremantle, M.A., Fellow and Tutor of Balliol College. Rev. A. Carr, M.A., Late Fellow of Oriel College. Rev. E. Barber, M.A., Magdalen College. Rev. H. M. Spooner, M.A., late Fellow and Tutor of Magdalen Coll.
Preliminary Subjects (except Arithmetic), and English.	Rev. T. Williams, M.A., late Fellow of Jesus College. Rev. W. Tuckwell, M.A., late Fellow of New College. Rev. C. H. O. Daniel, M.A., Fellow of Worcester College. Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College. Rev. W. Hunt, M.A., Trinity College. Rev. G. F. Lovell, B.D., Vice-Principal of St. Edmund Hall. C. N. Jackson, Esq., M.A., Fellow and Tutor of Hertford College. Rev. R. W. M. Pope, B.D., Lecturer of Worcester College. A. Hassall, Esq., M.A., Trinity College, Tutor of Christ Church. C. L. R. Fletcher, Esq., M.A., All Souls College, Lecturer of Keble College.
Latin and Greek.	Rev. S. J. Hulme, M.A., late Fellow of Wadham College. T. W. Jackson, M.A., Fellow and Tutor of Worcester College. Rev. W. H. Hughes, M.A., Fellow and Tutor of Jesus College. Rev. E. M. Mee, M.A., Fellow and Tutor of Queen's College.
French.	Mons. J. Bué, M.A., Magdalen College, French Teacher in the Taylor Institution. G. Saintsbury, Esq., M.A., Merton College. Mons. A. Manier. W. Little, Esq., M.A., Fellow and Tutor of Corpus Christi Coll.
German.	A. A. Macdonell, Esq., M.A., Corpus Christi College, German Teacher in the Taylor Institution.
Arithmetic and Mathematics.	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. G. Edmundson, M.A., late Fellow of Brasenose College. E. B. Elliott, Esq., M.A., Fellow and Tutor of Queen's College. Rev. J. H. Kirkby, M.A., University College. H. T. Gerrans, Esq., M.A., Fellow and Lecturer of Worcester Coll.
Physics.	A. W. Reinold, Esq., M.A., Christ Church.
Chemistry.	J. Watts, Esq., M.A., Balliol College, Lecturer of Merton College, Aldrichian Demonstrator in Chemistry.
Vegetable Physiology.	C. J. F. Yule, Esq., M.A., Fellow and Tutor of Magdalen College.
Animal Physiology.	F. J. Bell, Esq., M.A., Magdalen College.
Geology and Mineralogy.	E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Drawing.	A. Macdonald, Esq., M.A., Ruskin Teacher of Drawing.
Music.	C. H. Lloyd, Esq., M.A., B.Mus., Christ Church.

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SUPERINTENDING EXAMINERS AT THE LOCAL CENTRES.

BATH	Rev. F. Harrison, M.A., late Fellow of Oriel College.
BERKHAMSTED	Rev. W. Tuckwell, M.A., late Fellow of New College.
BIRMINGHAM.	Rev. R. E. Williams, M.A., late Fellow of Jesus College.
"	Rev. F. H. Curgenven, M.A., late Fellow of Corpus Christi College.
BOSTON	Rev. A. R. Maddison, M.A., Merton College.
BRIGHTON	E. M. Miller, Esq., M.A., Fellow of Magdalen College.
BRISTOL	Rev. H. L. Thompson, M.A., late Senior Student and Tutor of Ch. Ch.
CHELTENHAM	Rev. P. G. Medd, M.A., late Fellow and Tutor of University College. Rev. E. Worsley, M.A., late Fellow of Magdalen College.
CROSBY	Rev. W. Tuckwell, M.A., late Fellow of New College.
CRYSTAL PALACE	Rev. W. C. Stapylton, M.A., late Fellow of Merton College.
DOWNSIDE....	Rev. W. E. Daniel, M.A., Worcester College.
KINGSBRIDGE.	Rev. E. Harris, M.A., Lincoln College.
LEEDS.....	Rev. J. T. B. Landon, M.A., late Fellow of Magdalen College.
LEICESTER ..	Rev. W. G. Cole, M.A., late Fellow and Tutor of Trinity College.
LINCOLN	Rev. J. M. Barrett, M.A., Pembroke College.
LIVERPOOL ..	Rev. J. D. Kelly, M.A., Wadham College. R. T. Tidswell, Esq., M.A., Worcester College.
LONDON	Rev. E. Hill, M.A., late Student and Mathematical Lecturer of Ch. Ch. Rev. M. S. A. Walrond, M.A., Balliol College. Rev. F. R. Ellis, M.A., Trinity College.
LYTHAM.....	Rev. C. C. Atkinson, M.A., Keble College.
MANCHESTER	Rev. W. E. Buckley, M.A., late Fellow of Brasenose College. Rev. J. G. Denison, M.A., Christ Church.
MILTON MOUNT	Rev. J. Bond, M.A., St. John's College.
NORTHLEACH.	Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College.
NOTTINGHAM.	Rev. W. V. Jackson, M.A., Hertford College.
OSWESTRY ..	Rev. A. Short, late Fellow of New College.
OXFORD	Rev. W. J. Hills, M.A., Jesus College.
PETERBOROUGH	H. W. Just, Esq., M.A., Corpus Christi College.
PORTSMOUTH .	Rev. G. W. Jeudwine, M.A., late Fellow of Queen's College.
PRESTON	Rev. C. P. Roberts, M.A., Trinity College. A. Hassall, Esq., M.A., Trinity College, Tutor of Christ Church.
RAMSGATE....	Rev. J. W. Nutt, M.A., late Fellow of All Souls College.
REIGATE	Rev. A. Isham, M.A., late Fellow of All Souls College.
RUGBY	Rev. J. W. Caldicott, D.D., Jesus College.
SALISBURY ..	Rev. W. A. Heygate, M.A., New College.
SOUTHAMPTON	Rev. C. Eddy, M.A., late Fellow of Queen's College.
STRATFORD-ON-AVON	Rev. T. Williams, M.A., late Fellow of Jesus College.
STREATHAM HILL	Rev. J. Troutbeck, M.A., University College.
SWANSEA	Rev. W. C. Bruce, M.A., University College.
TAUNTON.....	Rev. H. F. Seymour, M.A., late Fellow of All Souls College.
THAME	Rev. D. Thomas, M.A., late Fellow of Trinity College.
TRURO	Rev. W. P. Chappel, M.A., Worcester College.
WARWICK	Rev. A. C. Irvine, M.A., Balliol College.
WATFORD	Rev. F. B. Lipscomb, M.A., St. Edmund Hall.

Oxford, May 7, 1884.

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EXAMINATION PAPERS.

JUNIOR CANDIDATES.

*I. 1. Reading aloud.

A passage from some English Author.

(The Book selected was 'The Pilgrim's Progress.')

WEDNESDAY, JULY 16, from 4 to 4.30 P.M.

I. 2. Passage for Dictation.

[The Examiner is requested,

First, to read the following passage to the Candidates in order that they may catch its general purport;

Then, to dictate it very slowly, giving them ample time to write it down, and telling them where the full stops occur;

Lastly, to read it over a third time, that they may have an opportunity of correcting and punctuating what they have written.]

The subjugation of Spain had occupied one hundred and fifty years of almost constant warfare. Step by step had Rome made her way into the heart of a country, in which every mountain and desert had been defended with the same inveterate love of freedom. But she had never been compelled to retreat from an inch of ground once occupied, and the roots of her power struck the deeper into the soil from the tempests which had so long repressed its growth. The character of this people was, however, essentially warlike, and this temper the crafty conquerors did not suffer to ferment in inaction.

* The numbers prefixed to the several Papers correspond with the numbers prefixed to the Subjects in the REGULATIONS.

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TUESDAY, JULY 15, from 11 A.M. to 1 P.M.

I. 3. English Grammar and Composition.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Parse each word in the following lines :—

'On the high couch he lay! his friends came round—
Supported him—no pulse or breath they found,
And in its marriage robe the heavy body wound.'

2. Paraphrase—

'My sentence is for open war: of wiles,
More unexpert, I boast not: them let those
Contrive who need, or when they need, not now.'

3. What is meant by—anomalous verb, conjunction, preposition, metre, simile, syntax?

4. Mention some foreign words that occur in English, stating the languages from which they come.

5. Describe fully the formation of the possessive case.

6. Write short sentences to shew the different meanings each of these words may bear :—own, that, very, one, quick, certain, as, judge. In each case parse the word you illustrate.

7. Write a short Essay on *one* of the following subjects :—

(1) The present condition of education in England.

(2) The life of any famous historical character.

(3) Hypocrisy.

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TUESDAY, JULY 15, from 9 to 11 A.M.

I. 4. Arithmetic.

[N.B. **Every Candidate is required to satisfy the Examiners in this Paper.**
No credit will be given for any answer, the full working of which is not shewn.]

1. Add together seven hundred and five millions seventy thousand, seventy seven thousand seven hundred, and five thousand and three; and express the result in words.

2. Multiply 7999899 by 8000101; and also 73 acres 3 roods 31 poles by 341.

3. A ship lands at a port a cargo of 480 tons of coal. How many trucks carrying 145 cwt. each can be loaded from it, and how many hundred-weight will remain when they are full?

4. Express 234568 half pints in quarters, bushels, pecks, etc.

5. Subtract the sum of $\frac{5}{8}$ and $2\frac{3}{4}$ from the product of $3\frac{1}{2}$ and the half of $\frac{15}{7}$; and divide ·00529 by ·23.

6. Find the value of $\frac{273}{4000}$ of 20 guineas; and express 4 furlongs 17 poles as the decimal of a mile.

7. When the value of silver is 4*s.* 2*d.* an ounce, what is a tankard weighing 12 oz. 7 dwt. 12 grs. worth?

8. If the provisions in a fortress would last a garrison of 5975 men for 184 days, how long will they last one of 4600 men?

9. How many tiles each 6 inches square and 1 inch thick can be put together in a stack 38 feet long, 10 feet 6 inches wide, and 6 feet 5 inches high?

10. In how many years will 1730*l.* amount to 2002*l.* 9*s.* 6*d.* at $4\frac{1}{2}$ per cent. per annum, simple interest?

11. If 3 pumps in 4 hours can discharge from a ship's hold 16200 gallons of water, how many gallons can be discharged by 5 pumps in 72 hours?

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12. A draper buys cloth reckoning that by selling it at 11*s.* 8*d.* a yard he will secure a profit of 5 per cent. on his outlay. He is however obliged to sell it at 10*s.* 4*d.* a yard. How much does he gain or lose per cent.; and how much a yard?

MONDAY, JULY 14, from 2 to 3 P.M.

II. 1 (*a*). The Book of Joshua, and Judges i-xviii.

1. Give a short description of the taking of Jericho.

2. What events happened at Achor, Bochim, the Valley of Ajalon, and Thebez? Give the meaning of the first two names.

3. Explain the following passages:—

(*a*) 'Which thing became a snare unto Gideon.'

(*b*) 'They described it by cities into seven parts in a book.'

(*c*) 'Is not the gleaning of the grapes of Ephraim better than the vintage of Abiezer?'

4. Write out, and give an explanation of, Jotham's Fable.

5. Give a list of the Judges, stating in each case the enemy from whom they delivered the children of Israel.

6. What arrangements were made for the settlement of the Levites? What reasons would you give for this tribe being treated differently from any of the others?

MONDAY, JULY 14, from 3 to 4 P.M.

II. 1. (*b*). The Gospel according to St. Mark.

1. Describe the call of St. Matthew.

2. Explain and give the context of the following passages:—

(*a*) 'Get thee behind me, Satan.'

(*b*) 'With men it is impossible, but not with God.'

(*c*) 'She hath done what she could.'

3. What was the request of the sons of Zebedee, and how did our Lord meet it?

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4. Give a full account of our Lord's treatment of little children.

5. Give St. Mark's account of the Resurrection, and subsequent appearances of our Lord.

6. Translate and explain:—

(*a*) Καὶ ὅσοι ἂν μὴ δέξωνται ὑμᾶς μηδὲ ἀκούσωσιν ὑμῶν, ἐκπορευόμενοι ἐκεῖθεν ἐκτινάξατε τὸν χοῦν τὸν ὑποκάτω τῶν ποδῶν ὑμῶν, εἰς μαρτύριον αὐτοῖς. Ἀμὴν λέγω ὑμῖν, ἀνεκτότερον ἔσται Σοδόμοις ἢ Γομόῤῥοις ἐν ἡμέρᾳ κρίσεως, ἢ τῇ πόλει ἐκείνῃ.

(*b*) Προσεύχεσθε δὲ ἵνα μὴ γένηται ἡ φυγὴ ὑμῶν χειμῶνος. Ἔσονται γὰρ αἱ ἡμέραι ἐκεῖναι θλῖψις, οἵα οὐ γέγονε τοιαύτη ἀπ' ἀρχῆς κτίσεως ἧς ἔκτισεν ὁ Θεὸς ἕως τοῦ νῦν, καὶ οὐ μὴ γένηται· καὶ εἰ μὴ Κύριος ἐκολόβωσε τὰς ἡμέρας, οὐκ ἂν ἐσώθη πᾶσα σάρξ· ἀλλὰ διὰ τοὺς ἐκλεκτοὺς, οὓς ἐξελέξατο, ἐκολόβωσε τὰς ἡμέρας.

(*c*) Τὸ θυγάτριόν μου ἐσχάτως ἔχει.

MONDAY, JULY 14, from 4 to 5 P.M.

II. 1. (*c*). Acts I—XII.

1. Shew how far our Lord's directions as to the order in which the gospel should be preached were carried out by the Apostles.

2. Give the substance of St. Peter's speech at the house of Cornelius, and shew how the argument differs from a speech to a Jewish audience.

3. 'Who have received the law by the disposition of Angels?' Where do these words occur in the Acts, and where does a similar expression occur elsewhere in the New Testament? Explain the meaning of the words in both passages.

4. Give short notices of the following places and persons:— Lydda, Cyprus, Candace, Gamaliel, Blastus.

5. Write an account of St. Paul from his conversion to his first missionary journey.

6. Mention the context of the following and explain briefly:—

(*a*) Cloven tongues like as of fire.

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(*b*) There arose a murmuring of the Grecians against the Hebrews.

(*c*) I will carry you beyond Babylon.

(*d*) God is no respecter of persons.

7. Translate:—

Ὡς δὲ ἐπληροῦντο ἡμέραι ἱκαναὶ συνεβουλεύσαντο οἱ Ἰουδαῖοι ἀνελεῖν αὐτόν· ἐγνώσθη δὲ τῷ Σαύλῳ ἡ ἐπιβουλὴ αὐτῶν. παρετήρουν τε τὰς πύλας ἡμέρας τε καὶ νυκτὸς, ὅπως αὐτὸν ἀνέλωσι· λαβόντες δὲ αὐτὸν οἱ μαθηταὶ νυκτὸς καθῆκαν διὰ τοῦ τείχους, χαλάσαντες ἐν σπυρίδι. Παραγενόμενος δὲ ὁ Σαῦλος εἰς Ἱερουσάλημ ἐπειρᾶτο κολλᾶσθαι τοῖς μαθηταῖς· καὶ πάντες ἐφοβοῦντο αὐτὸν, μὴ πιστεύοντες ὅτι ἐστὶ μαθητής. Βαρνάβας δὲ ἐπιλαβόμενος αὐτὸν, ἤγαγε πρὸς τοὺς ἀποστόλους καὶ διηγήσατο αὐτοῖς πῶς ἐν τῇ ὁδῷ εἶδε τὸν Κύριον καὶ ὅτι ἐλάλησεν αὐτῷ καὶ πῶς ἐν Δαμασκῷ ἐπαρρησιάσατο ἐν τῷ ὀνόματι τοῦ Ἰησοῦ.

MONDAY, JULY 14, from 6 to 7 P.M.

II. 1. (*d*). Catechism.

1. State the meanings of the following words and phrases:—pomps, covet, ordain, our ghostly enemy, redeemed.

2. Illustrate from Scripture the expressions:—inheritor of the kingdom of heaven, the resurrection of the body.

3. Which of the Commandments does Christ explain in the Sermon on the Mount? How does he extend the meaning of them?

4. What part of 'Thy duty towards God' has reference to the fourth Commandment?

5. What is meant by the word 'Sacrament'? Shew why Ordination and Confirmation are not Sacraments according to this meaning.

6. 'Holy Catholick Church.' Explain why the Church is called 'holy,' and why 'Catholick.'

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WEDNESDAY, JULY 16, from 2 to 4 P.M.

II. 2 (*a*). English History.

[N.B. Candidates are requested to answer questions out of each division of this paper, and to give dates wherever they are able.]

1. Describe the circumstances which led to
   the Provisions of Oxford,
   or the Rebellion of Wat Tyler,
   or the War of England and Spain in Elizabeth's reign.

2. Whom do you consider to have been the greatest Archbishop of Canterbury? Give your reasons for your choice, and write a life of the one whom you choose.

3. Discuss the character of Oliver Cromwell, and point out the difficulties that lay in his way when he attempted to govern England as Protector.

4. What do you know of Thomas Cromwell Earl of Essex, of William Cecil Lord Burleigh, and of Henry Beaufort Bishop of Winchester?

5. Give a sketch of the effects *either* of the Black Death in 1348, *or* of the accession of the Lancastrian dynasty to the throne.

6. Give an account of the chief works and the style of *any two* of the following writers:—Milton, Swift, Addison, Bacon, Bolingbroke, Goldsmith.

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7. Describe the circumstances which led to the political crisis of the year 1783.

8. What were the chief points in dispute between England and her North American colonies in 1774, and what view was taken of the question by the various parties in the English Parliament?

9. What territories did England acquire at the peace of Paris in 1763? Shew how their acquisition influenced the subsequent course of our foreign policy.

10. What is the importance of the years 1782 and 1798 in Irish history?

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TUESDAY, JULY 15, from 5.30 to 7.30 P.M.

II. 2 (*b*). Shakspeare's Macbeth.

1. Mention any references or allusions which shew the time when the action of this play took place.

2. What portions of this play have been supposed not to be written by Shakspeare, and on what grounds?

3. Give the meaning and (where possible) the derivation of:—serjeant, thane, sewer, quell, harbinger, sorry, jovial, thrall, slab, fell, skirr, foisons, sennet, deftly, munch'd.

4. Give in your own words the soliloquy of Macbeth, beginning with the words 'To be thus is nothing; But to be safely thus.'

5. Write short notes upon the following phrases or expressions:—

(*a*) 'Aroint thee, witch!' the rump-fed ronyon cries.
(*b*) All the quarters that they know i' the shipman's card.
(*c*) If the assassination could trammel up the consequence.
(*d*) O come in, equivocator.
(*e*) Two-fold balls.
(*f*) Daggers unmannerly breeched with gore.
(*g*) Shoughs, water-rugs, and demi-wolves.
(*h*) Perfect spy o' the time.

6. Quote, mentioning in each case the speaker and context, any peculiar phrases or expressions in this play which have passed into common use.

TUESDAY, JULY 15, from 2 to 4 P.M.

II. 2 (*c*). Geography.

1. Explain the terms—the Khamsin, delta, littoral, cañon, prairie, selva, sierra, pampa, estuary, tornado.

2. Where are situated Mount Hooker, the desert of Atacama, Lake Tanganyika, Dingle Bay, Besançon, Carlsruhe, Cintra, Khatmandu, and the Valdai Hills?

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3. From what countries and from what kinds of plants do we obtain gutta-percha, ebony, tobacco, cork, cotton, teak, hemp, sage, and arrowroot?

4. What do you mean by the vertical distribution of plants? Give examples of plants so distributed.

5. Give the chief tributaries of the Amazon and of the Obi. Illustrate by sketch maps.

6. In the accompanying map of North America—(1) Draw the ranges of the Sierra Nevada, Rocky Mountains, and Alleghanies. (2) Trace the course of the Mississippi and its feeders, the Mackenzie, the St. Lawrence, the Peace River, and the Saskatchewan. (3) Mark with an asterisk the position of New York, Toronto, Quebec, San Francisco, New Orleans, St. Louis, Charleston, and Chicago; and in every case insert the names.

7. Describe the chief coal fields of England and show how they have affected the distribution of the population.

8. Draw a sketch map of Scotland and insert the principal mountains, rivers, and towns.

9. What are the chief religions of the world, and how are they distributed?

WEDNESDAY, JULY 16, from 9 to 10.30 A.M.

II. 3. Latin.

[A Second Latin Paper will be given to you at 10.30 A.M.]

I.

CAESAR, *Bell. Gall. V, VI*; VIRGIL, *Aen. VI.*

[N.B. Candidates may not take both Caesar and Virgil.]

For all Candidates.

1. Translate into English:—

Erat copiis pedestribus multo firmior Marcellus: habebat enim veteranas, multisque proeliis expertas legiones. Cassius fidei magis, quam virtuti legionum, confidebat. Itaque cum castra castris collata essent, et Marcellus locum idoneum

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castello cepisset, quo prohibere aqua Cassianos posset, Longinus veritus, ne genere quodam obsidionis clauderetur in regionibus alienis sibique infestis, noctu silentio ex castris proficiscitur, celerique itinere Uliam contendit, quod sibi fidele esse oppidum credebat. Ibi adeo coniuncta ponit moenibus castra, ut et loci natura, namque Ulia in edito monte posita est, et ipsa munitione urbis undique ab oppugnatione tutus esset. Hunc Marcellus insequitur, et, quam proxime potest Uliam, castra castris confert.

For those who offer Caesar.

2. Translate into English:—

(*a*) At illi, intermisso spatio, imprudentibus nostris atque occupatis in munitione castrorum, subito se ex silvis eiecerunt impetuque in eos facto, qui erant in statione pro castris collocati, acriter pugnaverunt, duabusque missis subsidio cohortibus a Caesare, atque his primis legionum duarum, cum hae perexiguo intermisso loci spatio inter se constitissent, novo genere pugnae, perterritis nostris per medios audacissime perruperunt seque inde incolumes receperunt. Eo die Q. Laberius Durus, tribunus militum, interficitur. Illi pluribus submissis cohortibus repelluntur.

(*b*) His sunt arbores pro cubilibus; ad eas se applicant atque ita paulum modo reclinatae quietem capiunt. Quarum ex vestigiis cum est animadversum a venatoribus, quo se recipere consuerint, omnes eo loco aut ab radicibus subruunt aut accidunt arbores, tantum ut summa species earum stantium relinquatur. Huc cum se consuetudine reclinaverunt, infirmas arbores pondere affligunt atque una ipsae concidunt.

3. Give the meaning of—perendinus dies—ambacti—rhenon—manipulus—decumana porta—quaestio—vagina—pila muralia—naves actuariae—pilus.

For those who offer Virgil.

4. Translate into English:—

(*a*) Quod te per coeli iucundum lumen et auras,
Per genitorem oro, per spes surgentis Iuli;
Eripe me his, invicte, malis; aut tu mihi terram
Iniice, namque potes, portusque require Velinos;
Aut tu, si qua via est, si quam tibi diva creatrix
Ostendit,—neque enim, credo, sine numine divum
Flumina tanta paras Stygiumque innare paludem—
Da dextram misero, et tecum me tolle per undas;
Sedibus ut saltem placidis in morte quiescam.

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(*b*) Igneus est ollis vigor et coelestis origo
Seminibus, quantum non noxia corpora tardant,
Terrenique hebetant artus moribundaque membra.
Hinc metuunt, cupiuntque; dolent, gaudentque; neque auras
Despiciunt clausae tenebris et carcere caeco.
Quin et supremo quum lumine vita reliquit,
Non tamen omne malum miseris, nec funditus omnes
Corporeae excedunt pestes; penitusque necesse est
Multa diu concreta modis inolescere miris.

5. Translate, and give short explanations of—

(1) Discolor unde auri per ramos aura refulsit.

(2) Perque domos Ditis vacuas, et inania regna.

(3) Ille fame rabida tria guttura pandens
Corripit obiectam, atque immania terga resolvit
Fusus humi.

(4) Immortale iecur tondens, fecundaque poenis
Viscera.

(5) Nec qui pampineis victor iuga flectit habenis
Liber.

WEDNESDAY, JULY 16, from 10.30 A.M. to 12.

II. 3. Latin.

II.

1. Translate into Latin:—

It is related that when the news of the defeat of Varus was brought to Rome the whole city was alarmed. Men thought that they would next hear that the Germans had crossed the Rhine and were invading Gaul. Rome itself seemed hardly safe from the daring barbarians. The Emperor Augustus was one of those who always fear the worst. He remained for days silent and cast down. It is even said that he refused all food and drink, and, when his servants would comfort him, only answered with the words,—repeated again and again,—Varus, give me back my legions.

2. Translate into Latin:—

(*a*) This done, Caesar started for Rome.

(*b*) All the best men were opposed to any change such as this.

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(*c*) Is it better to go on or remain where we are?

(*d*) It is hard to say whether war or peace would be preferable.

3. Parse—adiri, abstulit, peperi, referentibus, impetret, abito, questa.

4. Give the perfects of audeo, vincio, veneo, lavo, fugo; the superlative of malus, leniter, malevolus, utilis; the dative plural of poema, dea, duo, uber, alter, tener.

5. Give (with their meanings) the moods which follow *ut* and *quum*: illustrate your answer by examples.

SATURDAY, JULY 19, from 9 to 10.30 A.M.

II. 4. Greek.

A Second Greek Paper will be given to you at 10.30 A.M.

I.

HOMER, *Od.* ii. XENOPHON, *Cyrop.* v.

[N. B. Candidates may not take both Xenophon and Homer.]

For all Candidates.

1. Translate:—

Δεύτερον τοίνυν ἆθλον ἐπέταξεν αὐτῷ τὴν Λερναίαν Ὕδρας κτεῖναι. ἐπιβὰς οὖν ἅρματος, ἡνιοχοῦντος Ἰολάου, παρεγένετο εἰν τὴν Λέρνην· καὶ τοὺς μὲν ἵππους ἔστησε, τὴν δὲ Ὕδραν εὑρὼν ἔν τινι λόφῳ κεκρυμμένην, βαλὼν βέλεσι πεπυρωμένοις ἠνάγκασεν ἐξελθεῖν. ἐκβαίνουσαν δ' αὐτὴν κρατήσας κατεῖχεν· τῷ ῥοπάλῳ δὲ τὰς κεφαλὰς κόπτων, οὐδὲν ἀνύειν ἐδύνατο, μιᾶς γὰρ κοπτομένης κεφαλῆς, δύο ἀνεφύοντο. ἐπεβοήθει δὲ καρκῖνος τῇ Ὕδρᾳ ταλαιπωρούσῃ ὑπερμεγέθης, δάκνων τὸν πόδα.

For those who offer Homer.

2. Translate:—

(*a*) *Κοῦροι, ἐμοὶ μνηστῆρες, ἐπεὶ θάνε δῖος Ὀδυσσεὺς,*
μίμνετ' ἐπειγόμενοι τὸν ἐμὸν γάμον, εἰσόκε φᾶρος
ἐκτελέσω—μή μοι μεταμώνια νήματ' ὄληται—
Λαέρτῃ ἥρωϊ ταφήϊον, εἰς ὅτε κέν μιν
Μοῖρ' ὀλοὴ καθέλῃσι τανηλεγέος θανάτοιο,
μή τις μοι κατὰ δῆμον Ἀχαιϊάδων νεμεσήσῃ,

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αἴ κεν ἄτερ σπείρου κῆται πολλὰ κτεατίσσας.
ὣς ἔφαθ', ἡμῖν δ' αὖτ' ἐπεπείθετο θυμὸς ἀγήνωρ.
ἔνθα καὶ ἠματίη μὲν ὑφαίνεσκεν μέγαν ἱστὸν,
νύκτας δ' ἀλλύεσκεν, ἐπεὶ δαΐδας παραθεῖτο.

(*b*) Ἂν δ' ἄρα Τηλέμαχος νηὸς βαῖν', ἦρχε δ' Ἀθήνη,
νηὶ δ' ἐνὶ πρύμνῃ κατ' ἄρ' ἕζετο· ἄγχι δ' ἄρ' αὐτῆς
ἕζετο Τηλέμαχος· τοὶ δὲ πρυμνήσι' ἔλυσαν,
ἂν δὲ καὶ αὐτοὶ βάντες ἐπὶ κληῖσι κυθῖζον.
τοῖσιν δ' ἴκμενον οὖρον ἵει γλαυκῶπις Ἀθήνη,
ἀκραῆ Ζέφυρον, κελάδοντ' ἐπὶ οἴνοπα πόντον.
Τηλέμαχος δ' ἑτάροισιν ἐποτρύνας ἐκέλευσεν
ὅπλων ἅπτεσθαι· τοὶ δ' ὀτρύνοντος ἄκουσαν.
ἱστὸν δ' εἰλάτινον κοίλης ἔντοσθε μεσόδμης
στῆσαν ἀείραντες, κατὰ δὲ προτόνοισιν ἔδησαν,
ἕλκον δ' ἱστία λευκὰ ἐϋστρέπτοισι βοεῦσιν.

3. Translate, with notes on words underlined :—

(*a*) Ὣς ἄρ' ἐφώνησεν, <u>λῦσεν δ' ἀγορὴν αἰψηρήν.</u>

(*b*) Ἀλλ' ἔκ τοι ἐρέω, τὸ δὲ καὶ <u>τετελεσμένον</u> ἔσται.

(*c*) πατὴρ δ' ἐμὸς ἄλλοθι <u>γαίης,</u>
<u>ζώει ὅ γ' ἢ τέθνηκε.</u>

And give the derivation of—*μεσόδμη, ἀκτή, ὑψόροφος, ἀμφιφορεύς, ἡεροειδής.*

For those who offer Xenophon.

4. Translate :—

(*a*) Μὴ ὁρῶντες μὲν οὖν ἡμᾶς, ἀλλ' οἰόμενοι ἀφανεῖς εἶναι διὰ τὸ φοβεῖσθαι ἐκείνους, σάφ' ἴσθι, ἔφη, ὅτι τοῦ μὲν φόβου ἀπαλλάξονται ὃς αὐτοῖς ἐνεγένετο, θάρρος δ' ἐμφύσεται ἀντὶ τούτου τοσούτῳ μεῖζον ὅσῳ ἂν πλείονα χρόνον ἡμᾶς μὴ ὁρῶσιν. ἂν δὲ ἤδη ἴωμεν ἐπ' αὐτοὺς, πολλοὺς μὲν αὐτῶν εὑρήσομεν ἔτι κλάοντας τοὺς ἀποθανόντας ὑφ' ἡμῶν, πολλοὺς δ' ἔτι τραύματα ἐπιδεδεμένους ἃ ὑπὸ τῶν ἡμετέρων ἔλαβον, πάντας δ' ἔτι μεμνημένους τῆς μὲν τοῦδε τοῦ στρατεύματος τόλμης, τῆς δ' αὐτῶν φυγῆς τε καὶ συμφορᾶς.

(*b*) Πρὸς τῶν θεῶν, ἔφη, ὦ θεῖε, εἴ τι κἀγώ σοι πρότερον ἐχαρισάμην, καὶ σὺ νῦν ἐμοὶ χάρισαι ἂν δεηθῶ σου· παῦσαι, ἔφη, τὸ νῦν εἶναι μεμφόμενός μοι· ἐπειδὰν δὲ πεῖραν ἡμῶν λάβῃς πῶς ἔχομεν πρὸς σὲ, ἐὰν μὲν δή σοι φαίνηται τὰ ὑπ' ἐμοῦ πεπραγμένα ἐπὶ τῷ σῷ ἀγαθῷ πεποιημένα, ἀσπαζομένου τέ μού σε ἀντασπάζου, εὐεργέτην τε νόμιζε, ἐὰν δ' ἐπὶ θάτερα, τότε μοι μέμφου.

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5. Translate, with short notes on words or phrases underlined :—

(*a*) Νῦν δὲ ὁ Ἀσσύριος εἰς τὴν χώραν αὐτοῦ ἐμβάλλειν ἀγγέλλεται, δηλονότι τιμωρεῖσθαι αὐτὸν βουλόμενος.

(*b*) Νῦν οὖν, ὦ ἄνδρες, καλόν τι ἄν μοι δοκοῦμεν ποιῆσαι, εἰ προθύμως Γαδάτᾳ βοηθήσαιμεν.

(*c*) Δηλοῦν δ' ἐνετέλλετο, ὅσην τε εἶχεν ὁ Γαδάτας δύναμιν, καὶ ὅτι Κῦρος, οὐ ξυνείπετο αὐτῷ· καὶ τὴν ὁδὸν ἐδήλωσεν, ᾗ μέλλοι προσιέναι.

(*d*) Οὐκοῦν τούτου τυχὼν παρὰ σοῦ οὐδὲν ἤνυτον, εἰ μὴ τούτους πείσαιμι. ἐλθὼν οὖν ἔπειθον αὐτοὺς καὶ οὓς ἔπεισα τούτους ἔχων ἐπορευόμην.

SATURDAY, JULY 19, from 10.30 A.M. to 12.

II. 4. Greek.

II.

1. Translate into Greek :—

(*a*) I say that I am a Greek, but that my friend is a foreigner.

(*b*) Where are you going? Perhaps you will come here again to-morrow.

(*c*) If they make me a slave I shall lose most of my friends.

2. What is the meaning of the terminations *-σκω*, *-σείω*, *-ινος*, *-μα*, *-της*? Illustrate your answer by instances.

3. If you offer Homer—

Parse—*κῆται, ἀπερρίγασι, ἀλάλησθαι, ἴμεν, ἄρσον, δείδιμεν, πλεύσασαν, μεθῶ, ἠττηθῆναι, μολεῖν.*

Or, If you offer Xenophon—

Parse—*ηὐξημένος, ἔφασαν, ἐροῦντας, δύνῃ, ἐνενοοῦ, ἐκτεταμένοι, ἀπήντα, ἄρειαν, ἠνώχλει, εἰρήσομαι.*

4. Write down the 1st person singular of all aorists and perfects, in the indicative and imperative moods, in all voices, of—*τρέφω, ἀπεργάζομαι, λανθάνω, ἄγω.* Give (without conjugating) the cognate moods of—*οἶδα, ἔστην*: and give the dative and accusative singular of—*οὖ, γῆρας, βοῦς, τάλας, πόλις.*

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5. Compare—*ἀληθής, ὀξύς, μέγας, σοφός, κενός, ταχύς, μάλα, καλῶς.*

What is the difference of meaning between *ποῦ, ποῖ, ποθέν—τίς, ποῖος, πόσος—ὅς, ὅστις—πρὸς τούτοις, πρὸς τούτων, πρὸς ταῦτα?* What is the difference (*a*) in meaning and (*b*) in construction between *ἔβην* and *ἔβησα—ἔφυν, πέφυκα,* and *ἔφυσα—ἀμύνω* and *ἀμύνομαι?*

THURSDAY, JULY 17, from 9 to 10.30 A.M.

II. 5. French.

[A second French paper will be given to you at 10.30 A.M.]

I.

1. Translate into English:—

Nous sommes deux dans la chambre, mon chien et moi. Au dehors hurle une terrible tempête. Mon chien est assis devant moi et me regarde droit dans les yeux.

Et moi aussi je le regarde dans les yeux.

Il semble vouloir me dire quelque chose; il est muet, sans parole; il ne comprend pas lui-même, mais je le comprends, moi.

Il comprends que, dans cet instant, en lui comme en moi vit le même sentiment; qu'il n'y a aucune différence entre nous. Nous sommes identiques; en chacun de nous vacille la même petite flamme tremblotante.

La mort arrivera sur nous et nous frappera du vent de son aile large et froide. . . .

Qui pourra ensuite reconnaître la différence des petites flammes qu'il y avait en lui et en moi?

Non, ce n'est pas un animal et un homme qui échangent leurs regards. Ce sont deux paires d'yeux identiques qui sont fixées l'une sur l'autre.

Et dans chacune de ces paires d'yeux, dans l'animal comme dans l'homme, la même vie se serre, terrifiée, contre l'autre.

2. Translate into English:—

(*a*) Ce jour nous fut propice et funeste à la fois;
Unissant nos maisons, il désunit nos rois;
Un même instant conclut notre hymen et la guerre
Fit naître notre espoir et le jeta par terre,
Nous ôta tout, sitôt qu'il nous eut tout promis;
Et, nous faisant amants, il nous fit ennemis.
Combien nos déplaisirs parurent lors extrêmes!

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(*b*) Sire, on se défend mal contre l'avis d'un roi;
Et le plus innocent devient soudain coupable,
Quand aux yeux de son prince il paraît condamnable.
C'est crime qu'envers lui se vouloir excuser:
Notre sang est son bien, il en peut disposer;
Et c'est à nous de croire, alors qu'il en dispose,
Qu'il ne s'en prive point sans une juste cause.
Sire, prononcez donc, je suis prêt d'obéir:
D'autres aiment la vie, et je la dois haïr.
Je ne reproche point à l'ardeur de Valère
Qu'en amant de la sœur il accuse le frère:
Mes vœux avec les siens conspirent aujourd'hui;
Il demande ma mort, je la veux comme lui.

3. Translate and explain, shewing where you can the connection of the quotations with the play:—

(*a*) Puissé-je. . . .
Voir le dernier Romain à son dernier soupir,
Moi seule en être cause, et mourir de plaisir!

(*b*) Parmi nos déplaisirs souffrez que je vous blâme.

(*c*) Loin de blâmer les pleurs que je vous vois répandre,
Je crois faire beaucoup de m'en pouvoir défendre.

(*d*) Qui n'y voit rien d'obscur doit croire que tout l'est.

THURSDAY, JULY 17, from 10.30 A.M. to 12.

II. 5. French.

II.

1. Turn into French:—

(*a*) I said I considered distinction of rank to be of so much importance in civilised society, that if I were asked on the same day to dine with the first duke in England, and with the first man in England for genius, I should hesitate which to prefer. *Johnson:* To be sure, Sir, if you were to dine only once, and it were never to be known where you dined, you would choose rather to dine with the first man for genius; but to gain more respect, you should dine with the first duke in England. For nine people in ten that you meet with would have a higher opinion of you for having dined with a duke; and the great genius himself would receive you better, because you had been with the great duke.

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(*b*) Has the postman been here this morning? Not yet; here is his knock.—Is there any letter from home? Yes; every body is well.—Have our letters been received? It could not be. We wrote too late.

2. Give the plural—of chou, corail, neveu, pain, amiral, œil, feu-follet, porte-clefs.

3. Give the feminine of—bleu, vieux, franc, long, vermeil, vicieux, hardi, bas, doux, supérieur, acteur, vengeur.

4. Turn into French:—

Let us eat potatoes and meat.
A man's house is his castle.
Eighty-four and sixteen make one hundred.
The half of ten is five.
We wish you a happy new year.
Our neighbours help us.
Your ideas are not mine.
There is an honour for which he works very hard.
Where there is a will, there is a way.
It is not given to everybody to live so long.

5. Derive adjectives from—enfant, terre, ciel, and verbs from marche, saut, vol.

6. Give the 2nd person singular preterite tense (or passé défini) indicative mood of—ronger, acquérir, courir, mourir, tenir, asseoir, mouvoir, conduire, craindre, croître, écrire, plaire.

FRIDAY, JULY 18, from 9 to 10.30 A.M.

II. 6. German.

I.

A Second German Paper will be given to you at 10.30 a.m.

1. Translate into English:—

Dieser Sturm, welcher unter die furchtbarsten Naturerscheinungen des vorigen Jahrhunderts gehört, verheerte um die Mitte des Jahres alle Antillen, besonders aber die Inseln Barbados und Jamaika. Um 8 Uhr Morgens brach das Ungewitter aus und wüthete achtundvierzig Stunden unaufhörlich fort. Die Schiffe, welche in den Häfen vor Anker lagen und sich in völliger Sicherheit glaubten, wurden von ihren Ankern gerissen, in die hohe See getrieben und dort der

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Gewalt des Sturmes preisgegeben. Die Lage der Bewohner dieser Inseln war noch trauriger, denn in der folgenden Nacht verdoppelte sich die Wuth des Sturmes. Häuser stürzten ein, und die grössten Bäume wurden mit ihren Wurzeln ausgerissen. Menschen und Thiere irrten umher oder wurden unter den Trümmern begraben. Die Hauptstadt der Insel Jamaika wurde fast dem Boden gleichgemacht. Die prächtige Wohnung des Gouverneurs, deren Mauern drei Fuss dick waren, wurde bis auf den Grund erschüttert, und drohte jeden Augenblick einzustürzen.

2. Translate into English :—

(*a*) Mein lieber Herr und Ehewirth! Magst du
Ein redlich Wort von deinem Weib vernehmen?
Des edeln Ibergs Tochter rühm ich mich,
Des vielerfahrnen Manns. Wir Schwestern sassen,
Die Wolle spinnend, in den langen Nächten,
Wenn bei dem Vater sich des Volkes Häupter
Versammelten, die Pergamente lasen
Der alten Kaiser, und des Landes Wohl
Bedachten in vernünftigem Gespräch.

(*b*) Gross ist in Unterwalden meine Freundschaft,
Und jeder wagt mit Freuden Leib und Blut,
Wenn er am andern einen Rücken hat
Und Schirm—O fromme Väter dieses Landes!
Ich stehe, nur ein Jüngling, zwischen euch,
Den Vielerfahrnen—meine Stimme muss
Bescheiden schweigen in der Landsgemeinde.

(*c*) Wenn am bestimmten Tag die Burgen fallen,
So geben wir von einem Berg zum andern
Das Zeichen mit dem Rauch; der Landsturm wird
Aufgeboten, schnell, im Hauptort jedes Landes.
Wenn dann die Vögte sehn der Waffen Ernst,
Glaubt mir, sie werden sich des Streits begeben
Und gern ergreifen friedliches Geleit,
Aus unsern Landesmarken zu entweichen.

FRIDAY, JULY 18, from 10.30 A.M. to 12.

II. 6. German.

II.

1. Translate into German :—

(*a*) My friend when he was told that his health would be much improved by going to Italy during the winter months, said that he should not be able to leave England.

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(*b*) The messenger having early in the morning brought the news to the general in his tent, was ordered to return to the camp with the utmost speed.

(*c*) There are very few who do not think that the Duke of Wellington was much greater as a general than as a minister.

2. Give the 1st and 2nd pers. sing. and plur. present and imperfect indicative, and the past participle, of:—sassen, bedachten, stehe, schweigen, begeben, entweichen.

3. Write down the nominative plural of:—Tochter, Herr, Weib, Vater, Leib, Berg, Streit; and the nom. and gen. singular, together with the definite article, of:—Nächte, Burgen, Vögte, Waffen, Landesmarken.

4. Decline the proper names:—Luise, Fritz, Maria, Augustus.

5. Is the article ever used with the names of countries in German? What is the gender of these nouns and what are the chief exceptions?

6. Decline *er*, *sie*, *es* in the singular and plural.

THURSDAY, JULY 17, from 2 to 4.30 P.M.

II. 7. Mathematics.

Algebra.

[No credit will be given for any answer, the full working of which is not shewn.]

1. Simplify, by removing brackets,

$$(1-2x)-\{3-(4-5x)\}+\{6-(7-8x)\}.$$

2. Find the continued product of

$$x^2-x-2,\ x^2+2x-3,\ x^2-x-6;$$

and evaluate it when $x=0$.

3. Find the Highest Common Divisor of

$$x^3-40x+63 \text{ and } x^4-7x^3+63x-81;$$

and the Lowest Common Multiple of

$$7a^2x(a-x),\ 21ax(a^2-x^2),\ 12ax^2(a+x).$$

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4. Simplify

(1) $\dfrac{x}{2(x-1)} - \dfrac{(x+2)}{2(x+1)}$;

(2) $\dfrac{ax-x^2}{(a+x)^2} \times \dfrac{a^2+ax}{(a-x)^2} \times \dfrac{a^2-x^2}{ax}$;

(3) $\left(\dfrac{\frac{x}{y}+2}{\frac{x}{y}+1} + \dfrac{x}{y}\right) \div \left(\dfrac{x}{y}+2-\dfrac{\frac{x}{y}}{\frac{x}{y}+1}\right)$.

5. Solve the equations:

(1) $\frac{1}{3}(2x+5)+\frac{1}{5}(2x-5) = \frac{1}{4}(3x+1)+\frac{1}{7}(3x-1)$;

(2) $y = 3(x+1)$, $4x = y+1$.

6. How may a sum of 10*l.* be paid in sovereigns and half-crowns, so that the number of half-crowns be double that of the sovereigns?

7. Solve the equations:

(1) $\dfrac{4}{x-1} - \dfrac{3}{x+7} = \dfrac{1}{18}$;

(2) $\dfrac{1}{a} + \dfrac{b}{x+ab} + \dfrac{b}{2x+ab} = 0$;

(3) $x+y = 7$, $x^2+3xy+y^2 = 61$.

8. If one dozen of sherry and one dozen of claret cost 46*s.*, and one dozen more of claret can be had for 5 guineas than of sherry for 5*l.*; what is the price of each per dozen?

9. Sum the series

(1) $13+12\frac{1}{3}+11\frac{2}{3}+$ etc. to 12 terms;

(2) $4+3+2\frac{1}{4}+$ etc. to n terms and to infinity.

10. The difference between two numbers is 48, and the arithmetical mean exceeds the geometrical mean by 18; find the numbers.

11. If $a:b::c:d$, prove that

(1) $ma+nb : pa-qb :: mc+nd : pc-qd$;

(2) $a^2 : c^2 :: a^2x+aby+b^2z : c^2x+cdy+d^2z$.

12. Find three numbers which are to one another as $2:3:5$, and such that the sum of the greatest and least exceeds the other by 24.

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FRIDAY, JULY 18, from 2 to 4.30 P.M.

II. 7. Mathematics.

Euclid.

1. Define an angle, an isosceles triangle, a rhombus, and similar figures.

2. If two triangles have two sides of the one equal to two sides of the other, each to each, and have also the angles contained by those sides equal to one another; they shall also have their bases or third sides equal, and the two triangles shall be equal, and their other angles shall be equal, each to each, namely those to which the equal sides are opposite.

3. Make a triangle of which the sides shall be equal to three given straight lines, any two of which are greater than the third.

4. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects the parallelogram, that is, divides it into two equal parts.

5. If a straight line be bisected, and produced to any point, the rectangle contained by the whole line thus produced and the part of it produced, together with the square on half the line bisected, is equal to the square on the straight line which is made up of the half and the part produced.

6. In every triangle, the square on the side subtending an acute angle is less than the squares on the sides containing that angle, by twice the rectangle contained by either of these sides and the straight line intercepted between the perpendicular let fall on it from the opposite angle and the acute angle.

7. Describe a parallelogram equal to a given rectilineal figure, and having an angle equal to a given rectilineal angle.

8. If any point be taken in the diameter of a circle which is not the centre, of all the straight lines which can be drawn from this point to the circumference the greatest is that in which the centre is; and the other part of the diameter is the least; and, of any others, that which is nearer to the straight line which passes through the centre is always greater than one more remote; and from the same point there can be drawn to the circumference two straight lines, and only two,

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which are equal to one another, one on each side of the shortest line.

9. Two circles touch one another internally at A; AB, AC are chords of one of them, meeting the other in D, E. Prove that DE is parallel to BC.

10. Inscribe a circle in a given triangle.

11. Equal triangles, which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional; and triangles which have one angle of the one equal to one angle of the other, and their sides about the equal angles reciprocally proportional, are equal to one another.

12. Describe a circle about a given equilateral and equiangular pentagon.

13. In any right-angled triangle, any rectilineal figure described on the side subtending the right angle is equal to the similar and similarly described figures on the sides containing the right angle.

If the figure on the hypothenuse be equal to the triangle, the figures on the other two sides are each equal to the one of the parts into which the triangle is divided by drawing a perpendicular from the right angle to the hypothenuse.

SATURDAY, JULY 19, from 2 to 4.30 P.M.

II. 7. Mathematics.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Plane Trigonometry and use of Logarithms.

1. Find an expression for all angles which have a given tangent.

Find a general value of x which satisfies the equation $\sin^2 x = \sin^2 a$.

2. Prove that

(1) $\tan \frac{A}{2} = \frac{\sin A}{1 + \cos A}$;

(2) $\cos (A + B) = \cos A \cos B - \sin A \sin B$;

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(3) $\sin A - \sin B = 2 \sin \frac{A-B}{2} \cos \frac{A+B}{2}$;

(4) $\frac{\cos A - \cos 3A}{\sin 3A - \sin A} = \tan 2A$.

3. What is meant by the 'Circular Measure' of an angle?

The difference between two angles is 1°, and the circular measure of their sum is 1; find them.

4. In a triangle ABC, a, b, c are the sides, S is the area, R, r the radii of the circumscribed and inscribed circles, s the semi-perimeter: prove that

(1) $a = b \cos C + c \cos B$;

(2) $2bc \cos A = b^2 + c^2 - a^2$;

(3) $2R = \frac{a}{\sin A} = \frac{b}{\sin B} = \frac{c}{\sin C}$;

(4) $\cot \frac{A}{2} + \cot \frac{B}{2} + \cot \frac{C}{2} = \frac{s}{r}$.

5. An escribed circle touches the side BC of a triangle ABC externally and the sides AB, AC produced in F, E: prove that $AE = s$; and if O_1 is the centre of this circle and O the centre of the inscribed circle, prove that

$$OO_1 = a \sec \frac{A}{2}.$$

6. Given $\log 2 = \cdot 3010300$, $\log 3 = \cdot 4771213$, find $\log 3456$. Also find $\sqrt[3]{50}$ to 5 decimal places, having given

$$\log 3\cdot 6840 = \cdot 5663196,$$
$$\log 3\cdot 6841 = \cdot 5663314.$$

7. In a triangle $a = 11$, $b = 13$, $c = 16$; find the angle A, having given

$\log 2$, and $\log 3$ (see Question 6), $\log 7 = \cdot 8450980$,
$L \cot 21° 31' = 10\cdot 4042321$, $L \cot 21° 32' = 10\cdot 4038620$.

8. The length of the shadow of a tower was observed twice in the same day to be a and $a+b$; and the difference in the sun's altitude on the two occasions was α. Prove that the height of the tower (h) is given by the equation

$$h^2 - bh \cot \alpha + a(a+b) = 0.$$

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2. Mensuration.

($\pi = 3\frac{1}{7}$.)

1. In a circular space whose radius is 20 feet a concentric circle is drawn so as to include one fourth of the area. Find

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the length of a rectangular space whose area is equal to that of the annular space between the circumferences, and whose breadth is equal to the difference between the radii of the two circles.

2. Shew how to find the area of the curved surface of a frustum of a cone. If the altitude of the frustum be $2\sqrt{3}$ feet, and the radii of its base and top be respectively 4 feet and 2 feet; find the area of the curved surface, and the volume of the solid.

3. A cylinder and a sphere have the same radius and the same volume: compare the height of the cylinder with the radius of its base. If this radius is 10 inches, find the area of the whole surface of the cylinder.

4. The cost of a cube of metal at 17*s.* 7*d.* a cubic inch is 301*l.* 11*s.* 1*d.* Find the cost of gilding its surface at $\frac{1}{4}$*d.* per square inch.

FRIDAY, JULY 18, from 5.30 to 8 P.M.

II. 8. Mechanics and Mechanism.

[N. B. More credit will be given to a few questions answered fully than to a greater number answered imperfectly. The answers are to be illustrated by diagrams or drawings, where these can be introduced.]

1. State the proposition known as the Triangle of Forces.

A weight of P lbs. is suspended from two pegs by two strings which make angles of 60° and 30° respectively with the horizon. Compare the tensions of the strings.

2. Define (1) the moment of a couple, (2) the axis of a couple.

Prove that the effect of a couple on a body is unaltered when it is turned through any angle in its own plane.

3. AB is a rigid rod $17\frac{1}{2}$ in. long, without weight, supported at A and B. Weights of 3, 5, 7, 10, 15 lbs. are hung in this order at distances 1, 5, 11, 12, 13 inches respectively from A. Determine the pressures on A and B; and find where a single prop might be applied, instead of them, to support the system.

4. Prove that the centre of gravity of a triangle coincides with that of three equal heavy particles placed at the angular points of the triangle.

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G is the centre of gravity of a triangle ABC; prove that forces represented by GA, GB, GC will be in equilibrium.

5. In a system of four moveable pulleys whose weights are the same and which hang by separate vertical strings, find the ratio of the power to the weight.

If the power in any system of pulleys (whose weight may be neglected) be 100 lbs., what must be its fall in order to raise a weight of 10 tons through one inch?

6. A stone is dropped into a well $210\frac{1}{4}$ ft. deep and reaches the water after an interval of 4 seconds. Find the time lost in the descent through the resisting action of the air. ($g=32$.)

7. Shew that if a mass M is moving under the influence of a constant force F, the acceleration is to be measured by $\frac{F}{M}$.

Two equal weights of 5 lbs. each are connected by a fine string passing over a smooth pulley. The system is set in motion by an extra weight of 1 oz. attached to one of the weights. Determine the acceleration of the system. ($g = 32{\cdot}2$.)

8. A ball is dropped from a height h upon a horizontal plane, and is observed to rise to a height k. Determine the coefficient of elasticity.

9. How is the barometer used to determine the altitude of an elevated position?

10. Describe the Siphon, and explain its action.

11. What is meant by the pressure of a fluid or gas at any point in its volume? Quote Boyle's law relating to the pressure of an elastic fluid.

How deep in mercury must an inverted cylindrical cup 4 inches in length be plunged in order to compress the air contained in it to half its original volume, the mercurial barometer standing at 30 inches?

WEDNESDAY, JULY 16, from 5.30 to 7.30 P.M.

II. 9. Chemistry.

1. How is ammonia obtained in the gaseous and liquid states? By what tests are compounds of ammonia recognised?

2. What are the principal constituents of atmospheric air, and in about what proportions do they exist? How would you

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prove the presence of carbon dioxide and moisture in a given volume of air?

3. When phosphorus is boiled in dilute nitric acid, it gradually disappears; what has become of the phosphorus? and what properties would the solution possess after evaporation of the excess of nitric acid?

4. What is the composition of ordinary glass, and how is it made? What chemical reaction takes place when glass is etched by means of hydrofluoric acid?

5. Describe the process for obtaining metallic iron from any one of the principal ores of this metal. What is the chemical difference between cast-iron, wrought-iron, and steel?

6. What volume of nitrogen at 0° can be obtained from 100 grams of ammonium nitrite? How would you show that the gas so obtained was nitrogen, and not nitrogen monoxide? $N = 14$.

7. From what sources is the element sulphur derived, and what are its chemical characteristics? Give several instances of compounds of sulphur with other elements which are analogous in composition to compounds of oxygen with the same elements.

8. Calculate the percentage composition of potassium silicofluoride K_2SiF_6. Given, $K = 39$, $Si = 28$, $F = 19$.

THURSDAY, JULY 17, from 5.30 to 7.30 P.M.

II. 9. Chemistry.

(*Practical Examination.*)

The tubes marked I, II, III, IV, contain single substances, consisting of one metallic and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Ammonium Phosphate. II. Lead Nitrate. III. Calcium Carbonate. IV. Manganese Sulphate.

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TWO HOURS ALLOWED.

Drawing from the Flat.

Copy in pen and ink, or in pencil, the accompanying outline, as nearly as you can the size of the original.

AN HOUR AND A HALF ALLOWED.

Drawing from the Solid.

Make a shaded drawing of the objects placed before you. The light should, if possible, come from the left hand.

In this Exercise particular attention should be paid to the gradations of shade on the rounded surface, and to exactness of contour, rather than to laborious perfection of finish. A small part of the drawing may be completed, to shew power of finishing; and should be indicated by a cross. But little regard can be shewn for such power, if the relations of shade are false, or the contours inaccurate or unrefined. The drawing will, *caeteris paribus*, be preferred which depends for its effect least on the direction of lines, and attains its results merely by differences of depth in shade. Exaggeration of darkness is particularly to be avoided.

The objects were :—a carpenter's mallet, a rectangular block, and a conical paper lampshade.

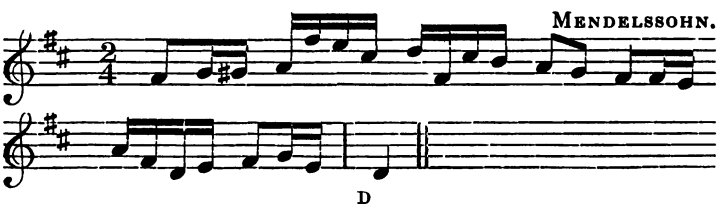
FRIDAY, JULY 18, from 5.30 to 7.30 P.M.

Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. What do you mean by the Terms—(1) Key Signature; (2) Accidental?

2. Divide the following passage correctly into bars :—



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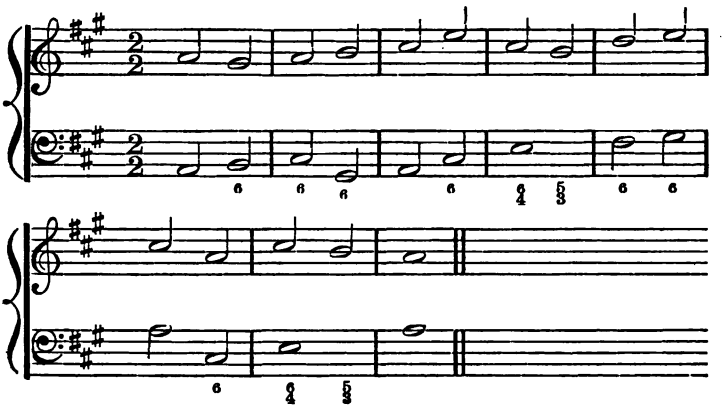
3. What is a semitone? How many semitones make an octave?

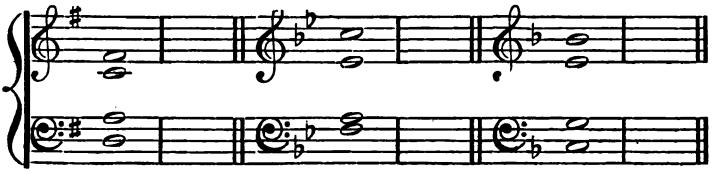
4. Write out one bar of music (1) in Simple Triple Time; (2) in Compound Common Time.

5. Write Triads on every note of the Scale of D Major, and state whether they are Major, Minor, or other.

6. Add a Second Treble part to the following exercise on Common Chords and their inversions, (making it into Music in three parts). Each Chord should be as complete as possible.



7. Resolve the following chords of the Dominant Seventh according to rule:—



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EXAMINATION PAPERS.

SENIOR CANDIDATES.

TUESDAY, JULY 15, from 11 A.M. to 1.

I. 1. English Grammar, Analysis and Composition.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation, and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Analyse:—

To take away all such mutual grievances, injuries, and wrongs, there was no way but only by growing unto composition and agreement amongst themselves, by ordaining some kind of government public, and by yielding themselves subject thereunto; that unto whom they granted authority to rule and govern, by them the peace, tranquillity and happy estate of the rest might be secured.

2. Parse each word in the following lines:—

Would thou hadst less deserved;
That the proportion both of thanks and payment
Might have been mine. Only I have left to say,
More is thy due than all that I can pay.

3. Give rules for the formation of the plural of nouns, and of the feminine gender; with examples and exceptions.

4. Explain the meaning of—transitive, impersonal, disjunctive conjunction, abstract nouns, ordinal, adverb.

5. What are the *direct* and the *indirect* object in a sentence?

6. Illustrate what English grammarians call the 'adjective sentence.'

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7. Examine uses of the words—either, a, the, let, if, before, as, ere.

8. Comment upon the following :—

Drad for his derring do.

With every thing that pretty *bin*.

Each in her sleep themselves so beautify.

Every of your wishes.

I am possessed of *that* is mine.

That which groweth of *it* own accord.

9. Write a short essay on—The Character and Policy of William III, *or* An estimate of Carlyle as a writer and teacher.

TUESDAY, JULY 15, from 9 to 11 A.M.

I. 2. Arithmetic.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper.

No credit will be given for any answer, the full working of which is not shewn.]

1. Divide 131*l.* 19*s.* $5\frac{1}{4}$*d.* by $4\frac{1}{5}$.

2. A purse contains the same number of guineas, crowns, and florins, and the value of its contents is 14*l.* Find the number of each.

3. Simplify

(1) $1\frac{3}{10} - 1\frac{1}{9}$ of $2\frac{5}{20}$ of $1\frac{1}{5} + 2\frac{1}{2}$ of $4\frac{2}{3} - 3$;

(2) $\dfrac{3{\cdot}8 \times 3{\cdot}8 - 1{\cdot}2 \times 1{\cdot}2}{3{\cdot}8 - 1{\cdot}2}$.

4. Reduce $\frac{1}{270}$ to a decimal. Divide 213·12 by ·00074.

5. What decimal of an acre is 1 pole 23 yards $4\frac{3}{4}$ feet?

6. Find the values of

(1) 4·2128 of 5 cwt. 2 qrs. 9 lbs.;

(2) $\dfrac{3{\cdot}8\dot{5}}{3{\cdot}1\dot{5}\dot{4}}$ of 2*l.* 15*s.*

7. If 27 men can perform a piece of work in 15 days, how many extra men must be called in if it is required to perform the same work in nine days?

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8. What will it cost to make a gravel walk 7 feet wide along the inner edge of each side of a square field whose side is 110 yards long, at 1*s.* 6*d.* a square yard?

9. Find the difference between the Simple and Compound Interest on 1250*l.* in 3 years at 4 per cent.

10. A square field contains 2½ acres. Find the length of its side.

11. A grocer bought 150 lbs. of tea. Selling it at 3*s.* 7*d.* a lb. he gained 7½ per cent. Find what he gave for the whole.

12. A man transfers 3000*l.* 4 per cent. Stock at 95 to Railway Stock at 120 paying 6½ per cent. Find the change in his income.

MONDAY, JULY 14, from 3 to 4 P.M.

II. A. (1).—Joshua and Judges i–xviii.

1. Give some account from these books of Caleb, Abimelech, Phinehas, Zalmunna, Othniel.

2. What is said in these books as to the Law either in general or in reference to its special provisions?

3. Give the career of Jephthah *or* of Samson. How do you account for the position of eminence assigned to them in the Bible?

4. State the geographical position of the following places, and the connexion in which they are mentioned in these books:—Lachish, Chinneroth, Shittim, Gilgal, Peniel, Hazor.

5. Explain, with reference to the context, the following:—

(*a*) We are come from a very far country.

(*b*) In those days there was no king in Israel.

(*c*) Why hast thou given me but one lot and portion?

(*d*) O my soul, thou hast trodden down strength.

(*e*) Out of the eater came forth meat.

(*f*) Would God we had been content and dwelt on the other side of Jordan.

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MONDAY, JULY 14, from 3 to 4 P.M.

II. A. (2). St. Mark.

1. What parables are given by St. Mark, and what is the lesson taught by each of them?

2. Describe the character of this Gospel, and the aspect under which it represents our Lord, giving quotations to illustrate your answer.

3. What is the teaching of our Lord, as given in this Gospel, on Fasting, the Sabbath, Traditions, Ambition, the Resurrection?

4. Explain the following sentences in relation to the circumstances under which they were spoken:—

(*a*) Who can forgive sins but God only?
(*b*) Be not afraid, only believe.
(*c*) Get thee behind me Satan.
(*d*) There is none good but one, that is, God.
(*e*) He that is not against us is on our part.

5. Translate and explain:—

Καὶ πρωὶ παραπορευόμενοι εἶδον τὴν συκῆν ἐξηραμμένην ἐκ ῥιζῶν. καὶ ἀναμνησθεὶς ὁ Πέτρος λέγει αὐτῷ, Ῥαββί, ἴδε ἡ συκῆ ἣν κατηράσω ἐξήρανται. καὶ ἀποκριθεὶς Ἰησοῦς λέγει αὐτοῖς, Ἔχετε πίστιν θεοῦ. ἀμὴν γὰρ λέγω ὑμῖν ὅτι ὃς ἂν εἴπῃ τῷ ὄρει τούτῳ, Ἄρθητι, καὶ βλήθητι εἰς τὴν θάλασσαν, καὶ μὴ διακριθῇ ἐν τῇ καρδίᾳ αὐτοῦ, ἀλλὰ πιστεύσῃ ὅτι ἃ λέγει γίνεται· ἔσται αὐτῷ ὃ ἐὰν εἴπῃ.

Parse—*κατηράσω, βλήθητι, διακριθῇ.*

Explain the use in St. Mark of the following words:—*πεφίμωσο, κωμοπόλεις, τελωναί, νυμφών, μάστιξ, ἀλεκτοροφωνία.*

MONDAY, JULY 14, from 4 to 5 P.M.

II. A. (3). The Acts, I–XII.

1. What special point of doctrine respecting our Lord did the first preaching of the Apostles chiefly dwell upon? Give quotations in your answer.

2. What persecutions of the Church are recorded in these Chapters. By what class of opponents were they raised?

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3. To what charges was St. Stephen's speech an answer? Shew in what way he met the charges.

4. What answers to prayer are recorded in these Chapters?

5. What was the nature of the sin of Ananias and Sapphira?

6. Tell shortly what you know of Cornelius, James the son of Zebedee, Gamaliel, Agabus.

7. Translate:—

Ὡς δὲ ἐπληροῦντο ἡμέραι ἱκαναὶ συνεβουλεύσαντο οἱ Ἰουδαῖοι ἀνελεῖν αὐτόν· ἐγνώσθη δὲ τῷ Σαύλῳ ἡ ἐπιβουλὴ αὐτῶν. παρετήρουν τε τὰς πύλας ἡμέρας τε καὶ νυκτὸς, ὅπως αὐτὸν ἀνέλωσι· λαβόντες δὲ αὐτὸν οἱ μαθηταὶ νυκτὸς καθῆκαν διὰ τοῦ τείχους, χαλάσαντες ἐν σπυρίδι. Παραγενόμενος δὲ ὁ Σαῦλος εἰς Ἱερουσάλημ ἐπειρᾶτο κολλᾶσθαι τοῖς μαθηταῖς· καὶ πάντες ἐφοβοῦντο αὐτὸν, μὴ πιστεύοντες ὅτι ἐστὶ μαθητής. Βαρνάβας δὲ ἐπιλαβόμενος αὐτὸν, ἤγαγε πρὸς τοὺς ἀποστόλους καὶ διηγήσατο αὐτοῖς πῶς ἐν τῇ ὁδῷ εἶδε τὸν Κύριον καὶ ὅτι ἐλάλησεν αὐτῷ καὶ πῶς ἐν Δαμασκῷ ἐπαρρησιάσατο ἐν τῷ ὀνόματι τοῦ Ἰησοῦ.

8. Translate, and where necessary explain:—

Οὐκ ἀρεστόν ἐστιν ἡμᾶς, καταλείψαντας τὸν λόγον τοῦ Θεοῦ, διακονεῖν τραπέζαις—Ἰδοὺ, θεωρῶ τοὺς οὐρανοὺς ἀνεῳγμένους καὶ τὸν υἱὸν τοῦ ἀνθρώπου ἐκ δεξιῶν ἑστῶτα τοῦ Θεοῦ—κατασοφισάμενος τὸ γένος ἡμῶν—σκεῦος ἐκλογῆς μοι ἐστὶν οὗτος—ἀτενίζειν—ἡμέραι τῶν ἀζύμων.

MONDAY, JULY 14, from 7 to 8 P.M.

II. A. (4). The First Epistle to the Corinthians.

1. At what period of St. Paul's life and where was this Epistle written? Are there any indications in the Epistle itself of the time and place of writing? Did St. Paul write the letter with his own hand?

2. What do you learn from the Epistle as to

(*a*) The class and character of the converts at Corinth;

(*b*) The errors whether in doctrine or manner of life to which they were prone.

3. Give St. Paul's argument with reference to the exercise of Spiritual gifts.

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4. How does St. Paul mention the Lord's Supper in the Epistle? Compare the account he gives of its institution with the accounts given in the Gospels, mentioning with which of the Gospel accounts his most nearly agrees.

5. 'I am the least of the Apostles.' In what connexion do these words occur, and how far do they agree with St. Paul's claim to Apostleship in other passages?

6. Explain with reference to the context:—

(*a*) A little leaven leaveneth the whole lump.

(*b*) Let every man abide in the same calling wherein he was called.

(*c*) I am made all things to all men that I might by all means save some.

7. Translate, with any explanations necessary:—

(*a*) *Καὶ γὰρ τὸ σῶμα οὐκ ἔστιν ἓν μέλος, ἀλλὰ πολλά. ἐὰν εἴπῃ ὁ πούς, "Ὅτι οὐκ εἰμὶ χεὶρ, οὐκ εἰμὶ ἐκ τοῦ σώματος·" οὐ παρὰ τοῦτο οὐκ ἔστιν ἐκ τοῦ σώματος; καὶ ἐὰν εἴπῃ τὸ οὖς "Ὅτι οὐκ εἰμὶ ὀφθαλμὸς, οὐκ εἰμὶ ἐκ τοῦ σώματος·" οὐ παρὰ τοῦτο οὐκ ἔστιν ἐκ τοῦ σώματος; εἰ ὅλον τὸ σῶμα ὀφθαλμὸς ποῦ ἡ ἀκοή; εἰ ὅλον ἀκοὴ, ποῦ ἡ ὄσφρησις; νυνὶ δὲ ὁ Θεὸς ἔθετο τὰ μέλη, ἓν ἕκαστον αὐτῶν ἐν τῷ σώματι, καθὼς ἠθέλησεν.*

(*b*) *Οὐδὲν γὰρ ἐμαυτῷ σύνοιδα· ἀλλ' οὐκ ἐν τούτῳ δεδικαίωμαι· ὁ δὲ ἀνακρίνων με, Κύριός ἐστιν.*

(*c*) *Καὶ οἱ χρώμενοι τῷ κόσμῳ τούτῳ, ὡς μὴ καταχρώμενοι· παράγει γὰρ τὸ σχῆμα τοῦ κόσμου τούτου.*

MONDAY, JULY 14, from 6 to 7 P.M.

II. A. (5). The Catechism. Morning and Evening Services and Litany. History of the Prayer Book.

1. Into what divisions does the Catechism naturally fall? How do these divisions answer to the particulars of the Baptismal Covenant?

2. Give the definition of a Sacrament contained in the Catechism, and shew how the two Sacraments correspond with it? How does it exclude the other five ordinances called 'Sacraments' in the Roman Church?

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3. Distinguish the several parts of Morning and Evening Prayer, and shew how they answer to the various points of worship referred to in the General Exhortation.

4. Explain the following words and expressions: there is no health in us; cloke; confounded; wealth; estate; kindly fruits of the earth. State where they occur in the Prayer Book.

5. What articles of the Creed are implied in the Litany? Under what titles do we pray to the Second Person of the Trinity? Can you give Scripture authority for so doing?

6. In whose reign and in what year was the Prayer Book first put forth in English? How many times has it since been revised, and in what reigns?

WEDNESDAY, JULY 16, from 2 to 4.30 P.M.

B. I. English History.

[N.B. All Candidates are expected to begin by attempting *at least* three of the Questions in the first division of this paper, and to answer some part of either the second or third division.]

1. What do you know of Anselm, Robert of Belesme, Roger, bishop of Salisbury, Ranulf Glanvill, William Fitz-Osbert, William Longchamp, William Marshall?

2. Describe the constitutional importance of the reign of Henry II.

3. Examine the claim of Edward III to the throne of France, and estimate the state of our power in that country at the Peace of Bretigny, the Treaty of Troyes, and the Treaty of Arras.

4. Compare the character of the ecclesiastical policy of Henry VIII with that pursued during the reign of his son.

5. Define the position taken by Oliver Cromwell in respect to civil and religious liberty.

6. Note briefly the various efforts made by England to check the advance of the power of Lewis XIV.

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7. Examine minutely the growth of discontent in our American colonies, and the position held with respect to them

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at any periods of the struggle by the King, by Lord Chatham, Lord Rockingham, and Lord North.

8. Give an account of the circumstances under which William Pitt took office in 1783, resigned, and again formed a ministry.

9. What do you know of the Mysore War, the Battle of Camperdown, the Battle of Copenhagen, the Berlin Decree, the Battle of Salamanca?

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10. Compare the poetic genius of Wordsworth, Coleridge and Southey as exhibited in any of their best-known works.

11. Illustrate briefly the influences exercised on our literature during this period by the events of foreign and domestic history.

12. What do you know of—the Rivals, the Minstrel, Table-talk, the Village, the Rolliad, Peter Pindar's Lyric Odes, Songs of Innocence, the Siege of Corinth, Italy, the Revolt of Islam?

TUESDAY, JULY 15, from 5.30 to 7.30 P.M.

B. 2. Shakspeare's Macbeth, and Burke's Reflections on the French Revolution.

Shakspeare's Macbeth.

1. Illustrate from the Play Macbeth's valour, ambition, transparency of character.

2. Give the sources from which the Play was taken; and say what portions of it have been ascribed to other writers.

3. Trace—(*a*) the natural promptings to crime in Macbeth's own mind; (*b*) the arguments by which his wife persuades him to the murder.

4. Explain carefully, assigning each to its speaker, the following passages:—

(*a*) Confronted him with self-comparisons.

(*b*) Function is smothered in surmise.

(*c*) Thou 'dst have . . . .
That which cries 'Thus thou must do if thou have it;'
And that which rather thou dost fear to do
Than wishest should be undone.

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(*d*) The near in blood, the nearer bloody.

(*e*) To feed were best at home;
From thence, the sauce to meat is ceremony.

5. Give the meaning, and context, of the following words:—minion, weird, metaphysical, shard-borne, chaudron, foysons; and quote any phrases in the Play which have become household sayings.

Burke.

6. How does Burke meet the assertion that a People has a right to choose its own Governor?

7. What are, and what are not, in Burke's estimation, the Rights of Men?

8. Give briefly Burke's analysis of, and criticism on, the personal composition of the National Assembly.

9. What were the Assignats? and what was their financial success? By what arguments does Burke maintain the impolicy and injustice of Church confiscation?

10. Mention some of the unusual words employed by Burke, and the sense in which he uses them.

TUESDAY, JULY 15, from 2 to 4.30 P.M.

B. 3. Physical, Political, and Commercial Geography.

[N. B. Candidates are expected to answer one question *at least* from each section of this paper.]

SECTION I.

1. In the accompanying map of India (1) trace the course of the Indus, marking its tributaries; (2) trace the ranges of the Eastern and Western Ghauts; (3) mark with an asterisk the position of:—Gwalior, Benares, Poonah, Ahmedabad, Assye, Tinnevelly, Lahore; and in every case insert the names.

2. Which are the mountainous parts of Great Britain? How has their existence affected the history of the country?

3. Explain the terms—trade winds, fringe reefs, mistral, cirrus, geyser.

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4. Draw a sketch map *either* of the Rhone marking its tributaries, and the chief towns on its banks, *or* of Wales marking the counties and chief towns.

SECTION II.

1. Enumerate the states and races comprised in the Austro-Hungarian Monarchy. Give their geographical position and general characteristics.

2. Give a concise account of the conquest of Canada by the English, and explain why they have retained their hold on that country.

3. Describe the position and importance of—the Soudan, Tonquin, Holstein, Manitoba, Basutoland.

4. What do you know of the constitution of—Japan, India, Peru, Sweden, Switzerland? Explain the importance of the neutrality of Switzerland.

SECTION III.

1. From what countries are the following commodities exported—Petroleum, jute, quicksilver, indigo, currants, barley?

2. Follow the course of the principal trade routes between Northern and Southern Europe during the middle ages.

3. To what circumstances do the following towns owe their importance—Alexandria, Dortmund, Spezia, Sunderland, Galle?

4. What are the principal products of Ceylon, Zanzibar, Peru, European Russia, New Zealand?

TUESDAY, JULY 15, from 2 to 4.30 P.M.

B. 4. Outlines of Political Economy.

1. Explain the following:—value, corn rents, depreciation of silver, speculation, ground rent, *ad valorem* duties, seignorage, carrying trade, differential rates, wealth.

2. Comment upon the following:—

(*a*) There is no legal rate of wages.

(*b*) Demand and supply regulate price.

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(*c*) 'The rate of Exchange is in favour of London and against Paris.'

(*d*) Rents ascend as the margin of cultivation descends.

3. What is Capital? In what different ways may it be employed with most advantage?

4. Describe Profit. On what does it really depend?

5. What do you understand to be the scope of Socialistic schemes?

6. Enumerate and estimate the different instruments of Credit.

7. Explain the economic advantages of Bonding Houses, Clearing Houses, Custom Houses.

8. What objections may be urged against the Income Tax, and the Tithe Rent Charge?

9. Suggest any remedies for ameliorating the condition of the poor in our great cities.

10. To what causes would you assign the increased wealth of England during the last 25 years?

WEDNESDAY, JULY 16, from 9 to 11 A.M.

C. 1. Latin.

A Second Latin Paper will be given to you at 11 a.m.

I.

CICERO, *De Amicit. Catil.* i. VIRGIL, *Æn.* vi.

[N. B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate into English:—

At, bene si noris, pigeat fugisse: morasque
Ipsa tuas damnes, et me retinere labores:
Sunt mihi, pars montis, vivo pendentia saxo
Antra, quibus nec Sol medio sentitur in aestu,
Nec sentitur hiems: sunt poma gravantia ramos:

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Sunt auro similes longis in vitibus uvae:
Sunt et purpureae: tibi et has servamus, et illas.
Ipsa tuis manibus, silvestri nata sub umbra,
Mollia fraga leges: ipsa autumnalia corna,
Prunaque, non solum nigro liventia succo,
Verum etiam generosa, novasque imitantia ceras.
Nec tibi castaneae, me coniuge, nec tibi deerunt
Arbutei foetus: omnis tibi serviet arbos.

2. Translate into English :—

(*a*) Altera sententia est, quae definit amicitiam paribus officiis ac voluntatibus. Hoc quidem est nimis exigue et exiliter ad calculos vocare amicitiam, ut par sit ratio acceptorum et datorum: divitior mihi et adfluentior videtur esse vera amicitia nec observare restricte ne plus reddat quam acceperit; neque enim verendum est ne quid excidat aut ne quid in terram defluat aut ne plus aequo quid in amicitiam congeratur. tertius vero ille finis deterrimus, ut, quanti quisque se ipse faciat, tanti fiat ab amicis.

(*b*) Quamquam quid loquor? te ut ulla res frangat? tu ut umquam te corrigas? tu ut ullam fugam meditere? tu ut exsilium cogites? utinam tibi istam mentem di immortales duint! tametsi video, si mea voce perterritus ire in exsilium animum induxeris, quanta tempestas invidiae nobis, si minus in praesens tempus, recenti memoria scelerum tuorum, at in posteritatem impendeat: sed est tanti, dum modo ista sit privata calamitas et a rei publicae periculis seiungatur. sed tu ut vitiis tuis commoveare, ut legum poenas pertimescas, ut temporibus rei publicae cedas, non est postulandum.

(*c*) Interea videt Aeneas in valle reducta
Seclusum nemus et virgulta sonantia silvis,
Lethaeumque, domos placidas qui praenatat, amnem.
Hunc circum innumerae gentes populique volabant;
Ac velut in pratis ubi apes aestate serena
Floribus insidunt variis, et candida circum
Lilia funduntur; strepit omnis murmure campus.
Horrescit visu subito, caussasque requirit
Inscius Aeneas, quae sint ea flumina porro,
Quive viri tanto conplerint agmine ripas.
Tum pater Anchises: Animae, quibus altera fato
Corpora debentur, Lethaei ad fluminis undam
Securos latices et longa oblivia potant.

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3. Translate with explanations of the historical allusions:—

(*a*) Videtis in tabella iam ante quanta facta sit labes, primo Gabinia lege, biennio autem post Cassia.

(*b*) Nam illa nimis antiqua praetereo, quod C. Servilius Ahala Sp. Maelium novis rebus studentem manu sua occidit.

(*c*) Aggeribus socer Alpinis atque arce Monoeci
Descendens; gener adversis instructus Eois.

4. Translate accurately, with any needful explanations of construction or meaning:—Stabant orantes primi transmittere cursum—per loca senta situ—evantes orgia circum Ducebat Phrygias—quisque suos patimur Manes.

WEDNESDAY, JULY 16, from 11 A.M. to 1 P.M.

C. 1. Latin.

II.

[N.B. Latin Prose is required of all Candidates in order to obtain exemption from Responsions.]

1. Translate into Latin Prose:—

He found those that still adhered to him firmly attached to his cause; he therefore resolved to take vigorous measures with the rest, and sent his brother with a well-armed force to treat with them. They met, and the captain of the mutineers, grown insolent with a long course of licentiousness and rapine, not only rejected the admiral's proposal, but offered violence to his brother. Upon this he gave a signal to his men, who fell upon the rebels with so much resolution, that ten lay dead in a moment with their chief; disordered by the unexpected attack, the rest fled, and soon after were obliged to submit.

2. Give the Gender and Genitive Singular of—semen, mos, aether, sermo; and the Nominative of—vigiliis, necem, scelerum, resides.

3. Give the Perfect, Supine, and Infinitive Present of—concedo, repello, irretio, quaero; and the Present of—nactus, molitus, profectus, iactus.

4. Give the meanings of—quicunque, quilibet, quisquam, ecquis; and write down the Latin for—'the same man,' 'he himself did it,' 'he called his men to himself.'

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5. Illustrate by short sentences the construction of—similis, pudet, caveo, doceo; and the use of the interrogative particles —num, nonne, an, ne. Translate each of the sentences.

6. Give rules for the use of the Subjunctive Mood after qui. Quote sentences in illustration.

7. Explain the expressions—homo trium literarum—binae centesimae—capitis minor—exsequias ivit—cui bono fuit?

8. For Latin Elegiacs:—

Again the balmy zephyr blows,
  Fresh verdure decks the grove;
Each bird with vernal rapture glows,
  And tunes his notes to love.

Ye gentle warblers! hither fly,
  And shun the noon-tide heat;
My shrubs a cooling shade supply;
  My groves, a safe retreat.

SATURDAY, JULY 19, from 9 to 11 A.M.

C. 2. Greek.

A Second Greek Paper will be given to you at 11 A.M.

I.

AESCH. *Prom. Vinct.* XEN. *Cyrop.* IV, V.

[N. B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate:—

Τῆς δὲ αὐτῆς ἡμέρας καὶ κατὰ γῆν καὶ κατὰ θάλασσαν μάχη ἦν. χρόνον μὲν οὖν πολὺν ἀντέσχεν ἡ πεζὴ στρατιὰ τῶν Αἰγυπτίων, εἶτα πλήθει βιασθέντες ἔφευγον· καὶ φεύγοντας ὁ βασιλεὺς ἔφιππος ἐδίωκε. σπουδὴ δὲ ἦν πολλὴ τοῦ μὲν Αἰγυπτίου καταφυγεῖν εἰς Πηλούσιον, τοῦ δὲ Πέρσου θᾶττον ἐκείνους καταλαβεῖν. καὶ ὁ Διονύσιος πάντων εἷς ἀνὴρ σοφώτατος ὢν ἐφαίνετο. οὗτος δὲ καὶ ἐν τῇ μάχῃ ἠγωνίσατο λαμπρῶς· τότε δὲ τῆς φυγῆς μακρᾶς οὔσης, ὁρῶν ἐπὶ τούτοις λυπούμενον βασιλέα, Μὴ λυποῦ, φησί, κωλύσω γὰρ ἐγὼ τὸν Αἰγύπτιον διαφυγεῖν, ἄν μοι δῷς ἱππεῖς ἐπιλέκτους πεντακισχιλίους.

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2. Translate, with short notes:—

(*a*) Ἔμαθον τάδε σὰς προσιδοῦσ' ὀλοὰς τύχας, Προμηθεῦ.
τὸ διαμφίδιον δέ μοι μέλος προσέπτα
τόδ' ἐκεῖνό θ' ὅτ' ἀμφὶ λουτρὰ
καὶ λέχος σὸν ὑμεναίουν
ἰότατι γάμων, ὅτε τὰν ὁμοπάτριον ἔδνοις
ἄγαγες Ἡσιόναν πιθὼν δάμαρτα κοινόλεκτρον.

(*b*) ΧΟ. ἦ γάρ τι λοιπὸν τῇδε πημάτων ἐρεῖς;
ΠΡ. δυσχείμερόν γε πέλαγος ἀτηρᾶς δύης.
ΙΩ. τί δῆτ' ἐμοὶ ζῆν κέρδος, ἀλλ' οὐκ ἐν τάχει
ἔρριψ' ἐμαυτὴν τῆσδ' ἀπὸ στύφλου πέτρας,
ὅπως πέδοι σκήψασα τῶν πάντων πόνων
ἀπηλλάγην; κρεῖσσον γὰρ εἰσάπαξ θανεῖν
ἢ τὰς ἁπάσας ἡμέρας πάσχειν κακῶς.

(*c*) Ἄλλο τι φώνει καὶ παραμυθοῦ μ'
ὅ τι καὶ πείσεις· οὐ γὰρ δή που
τοῦτό γε τλητὸν παρέσυρας ἔπος.
πῶς με κελεύεις κακότητ' ἀσκεῖν;

3. Translate, with short notes:—

(*a*) Οἶδε γὰρ ὡς ἐγὼ πρὸς αὐτὸν ἔχω καὶ ὡς πρόσθεν φαιδρῶς βιοτεύων, νῦν διάκειμαι, ἔρημος ὢν καὶ διὰ πένθους τὸ γῆρας διάγων. εἰ οὖν σύ με δέχει καὶ ἐλπίδα τινὰ λάβοιμι τῷ φίλῳ παιδὶ τιμωρίας ἄν τινος μετὰ σοῦ τυχεῖν, καὶ ἀνηβῆσαι ἂν πάλιν δοκῶ μοι καὶ οὔτε ζῶν ἂν ἔτι αἰσχυνοίμην οὔτε ἀποθνήσκων ἀνιώμενος ἂν τελευτᾶν δοκῶ.

(*b*) Ὁ δὲ Κῦρος ἐπιμελείᾳ τοῦτο ἐποίει· πάνυ γὰρ αὐτῷ ἐδόκει θαυμαστὸν εἶναι εἰ οἱ μὲν βάναυσοι ἴσασι τῆς ἑαυτοῦ τέχνης ἕκαστος τῶν ἐργαλείων τὰ ὀνόματα, καὶ ὁ ἰατρὸς δὲ οἶδε καὶ τῶν ὀργάνων καὶ τῶν φαρμάκων οἷς χρῆται πάντων τὰ ὀνόματα, ὁ δὲ στρατηγὸς οὕτως ἠλίθιος ἔσοιτο ὥστε οὐκ εἴσοιτο τῶν ὑφ' ἑαυτῷ ἡγεμόνων τὰ ὀνόματα, οἷς ἀνάγκη ἐστὶν αὐτῷ ὀργάνοις χρῆσθαι καὶ ὅταν καταλαβεῖν τι βούληται καὶ ὅταν φυλάξαι καὶ ὅταν θαρρῦναι καὶ ὅταν φοβῆσαι· καὶ τιμῆσαι δὲ ὁπότε τινὰ βούλοιτο, πρέπον αὐτῷ ἐδόκει εἶναι ὀνομαστὶ προσαγορεύειν.

(*c*) Οὐκοῦν τούτου τυχὼν παρὰ σοῦ οὐδὲν ἤνυτον, εἰ μὴ τούτους πείσαιμι. ἐλθὼν οὖν ἔπειθον αὐτοὺς καὶ οὓς ἔπεισα τούτους ἔχων ἐπορευόμην σοῦ ἐπιτρέψαντος.

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SATURDAY, JULY 19, from 11 A.M. to 1 P.M.

C. 2. Greek.

II.

1. Translate into Greek Prose:—

Hercules, coming to Nemea, sought the lion out. First he shot arrows at him; then, finding that the beast could not so be slain, he lifted up his club, and the lion, in terror, fled to a cave which was close at hand. Here he was followed by Hercules, who caught him and slew him, and carried the body back to Mycenae. It is said that Eurystheus, on seeing this proof of his prowess, forbade him to enter the city, and, himself, retired for some days into a brazen jar with which he had provided himself as an impregnable place of refuge.

2. Parse ἠμφιεσμένος, ὑπέδεκτο, ἀμῷεν, ἐξελελεγμένοι, πόσι, οἰκήσαι, πεσεῖ, ἔσπετο, ᾖξε, ἀνείς.

3. Write down the 3rd person singular and plural of the following:—the imperfect active of ἵστημι, and ὁράω: the perfect indicative passive of φαίνω, the future indicative active of ἐλαύνω and πίνω: and give the positive and superlative of κρείσσων, μᾶλλον, ἐχθίων, ἐλάσσων.

4. Distinguish and explain with examples the uses of—(1) εἰ, ἐάν: (2) ὡς, ὅτι, ὅπως, ὥστε. Mention any case where the Homeric differs from the later usage.

5. With what cases are πρὸς and μετὰ joined, and with what differences of meaning? Give examples.

6. For Greek Iambics—

Some came in person, others sent their legates.
Yet none did win me: I am free from all.
This was an orator, and thought by words
To compass me: but yet he was deceived.
This was Alcion, a musician,
But, played he ne'er so sweet, I let him go.
This, Meleager's son, a warlike prince,
But weapons 'gree not with my tender years.
The rest are such as all the world well knows:
Yet here I swear, by heaven and him I love,
I was as far from love as they from hate.

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THURSDAY, JULY 17, from 9 to 10.30 A.M.

C. 3. French.

A second French paper will be given to you at 10.30 a.m.

I.

1. Translate into English:—

(*a*) Ces nuées, venues de si loin, doivent, après la traversée, se recueillir volontiers, chercher un moment de repos. La place est grande sur les Alpes. Quarante, cinquante lieues de glaciers, du Dauphiné au Tyrol, c'est un assez beau lit, ce semble. Mais telle est la légèreté, l'inconstance de ces voyageuses, que la bonne hospitalité des Alpes ne les retiendrait pas. Un ingénieux travail leur donne un peu de fixité. Leurs flocons neigeux, au soleil, demi-fondus, infiltrés dans les couches inférieures, durcis à la gelée des nuits, deviennent une masse granuleuse. Ces grains ou petits glaçons, assez adhérents entre eux, sont ce qu'on nomme le *nevé*. Pendant tout l'été ce nevé s'infiltre de fontes nouvelles dont l'eau vient se déposer au pli où sera le glacier. Gelé, dégelé, regelé chaque nuit (même pendant l'été), ce nevé fait la glace blanche, mêlée encore de bulles d'air. Mais ces bulles disparaissent. La glace se stratifie en lames, en couches azurées. Voilà des vapeurs bien fixées. Solides et stratifiées, elles gisent, vouées, ce semble, à une captivité éternelle et définitive.

(*b*) Tels ils étaient, tels ils sont encore. Aucun des traits de leur premier type ne s'est altéré. Vous retrouvez dans les clairières de l'Écosse et sous les cactus de l'Andalousie ces hommes basanés, au nez crochu, aux yeux striés de bile, aux cheveux roides comme des touffes de crin, qui effrayaient les vieux chroniqueurs. Callot signerait, pour copie conforme, les fastueux haillons qui les drapent; il reconnaîtrait leurs charrettes héroï-comiques encombrées de poêlons et de cymbales, d'oripeaux et de volailles, de mégères et de jolies filles, qu'escortent gravement des truands harnachés et des enfants coiffés de marmites. C'est toujours le même peuple errant, sans feu ni lieu, sans culte ni code, épars et identique à lui-même sur tous les sentiers du monde où il essaime ses noires caravanes. Il a gardé sa paresse rêveuse, son indépendance égoïste, son ignorance du bien et du mal, sa rébellion tenace aux lois du travail et de la contrainte. Aux autres les villes policées, les maisons solides, le foyer qui fonde, le champ qui enracine, la sécurité de bien-être, les

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travaux de l'intelligence. Au Bohême les forêts touffues, les sierras pierreuses, les arches de ponts écroulés, la tente qu'on roule chaque matin autour du bâton de voyage; la marmite immonde où cuisent, à défaut d'autre proie, le hérisson et la taupe. A lui les licences et les hasards de la vie instinctive qui n'obéit qu'aux aiguillons de la chair et qu'aux influences de la lune.

2. Give the English equivalents of the following phrases and sentences, and add any explanation of them you think proper:—

(*a*) Il s'aime à la campagne.

(*b*) Prenez un doigt de vin, et mettez un œil de poudre.

(*c*) La faim chasse le loup hors du bois.

(*d*) Batterie de cuisine.

(*e*) Cet homme est sous la remise.

(*f*) Le bateau prend le large.

THURSDAY, JULY 17, from 10.30 A.M. to 12.30.

C. 3. French.

II.

1. Translate into French:—

I am much surprised and rather hurt at not hearing from you for so long a while. You ought to remember that, however pleasantly the time may be passing with you, we at home have some right to expect that a part of it should be dedicated, were it but for the sake of propriety, to let us know what you are about. I cannot say I shall be flattered by finding myself under the necessity of again complaining of neglect. To write once a week to one or other of us is no great sacrifice, and it is what I earnestly pray you to do.

2. Construct sentences to show that in general propositions the French prefer the definite article to the indefinite used in English. Translate:—A sailor's life has its fatigues and dangers. He has a passion for pictures.

3. Give some adjectives governing respectively the prepositions *de, à, envers, en.*

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4. Give examples of French collective nouns used as—(1) Collective general; (2) Collective partitive.

5. In what case is the personal pronoun, governed by *faire* followed by a verb in the present infinitive, an indirect object? Translate:—They made him walk the whole way. They made him observe that it was late.

6. Write in the present infinitive and translate:—*ri plu, crû, peint, tu.*

7. Construct sentences to show when the pluperfect is used in French.

8. Give examples of *que* used to avoid the repetition of *quand* and *si.*

9. Translate into French:—

I scrambled to Capel Curig by a route peculiar to myself. Following the Canarvon road for some four or five miles, I took the Arran at a pathway which leads to a copper mine. The ascent is stiff, but the view glorious: the whole range of Snowdon towers above you. Set in deep hollows, Llyn-y-Dinas and Llyn-Gwynant flashed back the light like silver shields. I met with one clump of moss here fit for the seat of an emperor, and such as I have never seen before. It was of the darkest olive-green, with shades of purple, and of a texture as fine as the finest velvet. The clump must have been at least six feet across, and I would have given anything to have brought it away with me; but as it was, I had quite enough to do to conduct myself safe to the level, which I managed to do close to the huge wooded rock which rises abruptly out of the smooth fields of the valley.

FRIDAY, JULY 18, from 9 to 10.30 A.M.

C. 4. German.

A Second German Paper will be given to you at 10.30 a.m.

I.

Translate into English:—

(1) Die Nacht zwischen dem 4ten und 5ten April war zur Ausführung dieses grossen Unternehmens bestimmt. Ein dunkles Gerücht davon hatte sich auch schon in dem spanischen Lager verbreitet, besonders da man von Antwerpen aus

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mehrere Taucher entdeckt hatte, welche die Ankertaue an den Schiffen hatten zerhauen wollen. Man war sich daher auf einen ernstlichen Angriff gefasst; nur irrte man sich in der eigentlichen Beschaffenheit desselben, und rechnete mehr darauf, mit Menschen als mit Elementen zu kämpfen. Der Herzog liess zu diesem Ende die Wachen längs dem ganzen Ufer verdoppeln, und zog den besten Theil seiner Truppen in die Nähe der Brücke, wo er selbst gegenwärtig war; um so näher der Gefahr, je sorgfältiger er derselben zu entfliehen suchte. Kaum war es dunkel geworden, so sah man von der Stadt her drei brennende Fahrzeuge daherschwimmen, dann noch drei andere, und gleich darauf eben so viele. Man ruft durch das spanische Lager ins Gewehr, und die ganze Länge der Brücke füllt sich mit Bewaffneten an.

(2) DER EICHWALD.

Ich trat in einen heilig düstern
Eichwald, da hört ich leis' und lind
Ein Bächlein unter Blumen flüstern,
Wie das Gebet von einem Kind.

Und mich ergriff ein süsses Grauen,
Es rauscht' der Wald geheimnissvoll,
Als möcht' er mir was anvertrauen,
Das noch mein Herz nicht wissen soll;

Als möcht' er heimlich mir entdecken,
Was Gottes Liebe sinnt und will;
Doch schien er plötzlich zu erschrecken
Vor Gottes Näh—und wurde still.

(3) So weit auch Homer sonst seine Helden über die menschliche Natur erhebt, so treu bleiben sie ihr doch stets, wenn es auf das Gefühl der Schmerzen und Beleidigungen, wenn es auf die Aeusserung dieses Gefühls durch Schreien, oder durch Thränen, oder durch Scheltworte ankommt. Nach ihren Thaten sind es Geschöpfe höherer Art; nach ihren Empfindungen wahre Menschen. Ich weiss es, wir feinern Europäer, einer klügern Nachwelt, wissen über unsern Mund und über unsere Augen besser zu herrschen. Höflichkeit und Anstand verbieten Geschrei und Thränen. Die thätige Tapferkeit des ersten rauhen Weltalters hat sich bei uns in eine leidende verwandelt. Doch selbst unsere Ureltern waren in dieser grösser, als in jener. Aber unsere Ureltern waren Barbaren. Alle Schmerzen verbeissen, dem Streiche des Todes mit unverwandtem Auge entgegensehen, unter den Bissen der

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Nattern lachend sterben, weder seine Sünde noch den Verlust seines liebsten Freundes beweinen, sind Züge des alten nordischen Heldenmuths.

FRIDAY, JULY 18, from 10.30 A.M. to 12.30.

C. 4. German.

II.

1. Translate into German:—

An Englishman and a Frenchman were disputing as to whose nation was most distinguished in military glory, in literature, in arts and sciences, and so forth. At the end of their dispute they were of course exactly where they were at the beginning, that is to say, each was convinced that his country deserved the preference. At length the Frenchman wishing in a polite manner to terminate the argument, which seemed likely to end in a quarrel, exclaimed: 'To tell you the truth, Sir, I should really like to be an Englishman, if I were not a Frenchman.' 'And I,' replied the proud son of Albion, 'would like to be an Englishman, if I were not one already.'

2. State which of the following prefixes are separable and which inseparable:—an, bei, be, vor, um, wieder, zu, nach.

3. Give the 2nd person singular imperative, present and imperfect indicative, and the past participle of—betrügen, saufen, einladen, braten, heissen, sich befleissen, sich auszeichnen, denken.

4. What is the gender of the names of stones, mountains, rivers, countries, seasons, metals; and of words ending in e, en, thum, schaft, ei, ich?

5. Write down in German the singular and plural of—that faithful dog; a beautiful country; pretty flower.

6. Translate into German:—

We doubt whether any name in literary history be so generally odious as that of the man whose character and writings we now propose to consider. The terms in which he is commonly described would seem to import that he was the Tempter, the Evil Principle, the discoverer of ambition

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and revenge, the original inventor of perjury, and that before the publication of his fatal work, there had never been a hypocrite, a tyrant, or a traitor, a simulated virtue, or a convenient crime. One writer gravely assures us that Maurice of Saxony learned all his fraudulent policy from that execrable volume. Another remarks that since it was translated into Turkish, the Sultans have been more addicted than formerly to the custom of strangling their brothers. The Church of Rome has pronounced his works accursed things. Nor have our own countrymen been backward in testifying their opinion of his merits.

THURSDAY, JULY 17, from 2 to 4.30 P.M.

D. Mathematics.

Algebra.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Find the value of $\frac{a^3-b^3}{a+b} \times \frac{a^3+b^3}{a-b}$ when

$$a=\sqrt{2}+1, \quad b=\sqrt{2}-1;$$

and show that

$$(x^2+x\sqrt{2}+1)(x^2-x\sqrt{2}+1)(x^4-1)=x^8-1.$$

2. Find the G. C. M. of

$$x^5+11x^3-54 \quad \text{and} \quad x^5+11x+12;$$

and the L. C. M. of

$$25(a^3+b^3)(a^4-b^4), \quad 30ab(a^2+b^2), \quad 45b(a^3-b^3).$$

3. Extract the square root of

$$x^4+4x^2+\frac{1}{x^2}-2x-\frac{4}{x}+4.$$

4. Find the simplest expressions for

(1) $\frac{ax+by+ay+bx}{(a^2-b^2)(x^2-y^2)}$;

(2) $\frac{x^{\frac{3}{2}}-y^{\frac{3}{2}}}{x^{\frac{1}{2}}-y^{\frac{1}{2}}}+\frac{x^{\frac{3}{2}}+y^{\frac{3}{2}}}{x^{\frac{1}{2}}+y^{\frac{1}{2}}}$;

(3) $\frac{p+q}{(q-r)(r-p)}+\frac{q+r}{(r-p)(p-q)}+\frac{r+p}{(p-q)(q-r)}$.

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5. A and B can do a piece of work in 6 days; B and C in 9 days. In what time can A and C do the same, it being supposed that A can do twice as much as B in a given time?

6. Solve the equations:

(1) $16x^2-12x-4=0$;

(2) $\left.\begin{array}{l}\dfrac{x-3y}{2}-\dfrac{y-3x}{2}+8=0,\\ x-2y=\frac{1}{2}(x-\frac{11}{8}y).\end{array}\right\}$

7. Solve the equations:

(1) $xy=12,\quad yz=20,\quad zx=15$;

(2) $x^2=8x+6\sqrt{x^2-8x+9}$;

(3) $x^3+y^3=65,\quad x+y=5$.

8. Obtain an expression for the sum of n terms of a Geometrical Progression.

The third and seventh terms of a G. P. are 5 and $\frac{1}{125}$; find the tenth term in the form of a decimal, and the sum to infinity.

9. If α and β are the roots of the equation $x^2+px+q=0$, express $\alpha+\beta$ and $\alpha^2-\beta^2$ in terms of p and q.

10. If $\dfrac{x}{b-c}=\dfrac{y}{c-a}=\dfrac{z}{a-b}$, show that

$$(b+c)x+(c+a)y+(a+b)z=0.$$

11. Determine the coefficient of x^4 in the expansion of $(1-\frac{2}{3}x)^{\frac{3}{2}}$.

12. If $a:b::x:y::p:q$, then $\left(\dfrac{a^3+x^3}{b^3+y^3}\right)^2=\dfrac{p^6}{q^6}$.

FRIDAY, JULY 18, from 2 to 4.30 P.M.

D. Mathematics.

Euclid and Conic Sections.

1. Define a segment of a circle, a scalene triangle, a circle, a rhombus.

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2. Inscribe an equilateral and equiangular pentagon in a given circle.

3. If from a point without a circle there be drawn two straight lines, one of which cuts the circle and the other meets it; and if the rectangle contained by the whole line which cuts the circle and the part of it without the circle be equal to the square of the line which meets it; the line which meets shall touch the circle.

4. Describe a square upon a given finite straight line.

5. If one circle touch another internally at any point O, and any line $ABCD$ cut the circles in the points A, B, C, D; then the angle AOB shall be equal to the angle COD.

6. If a straight line be divided into any two parts, the squares on the whole line and on one of the parts are equal to twice the rectangle contained by the whole and that part, together with the square on the other part.

7. If from the ends of a side of a triangle there be drawn two straight lines to a point within the triangle, these shall be less than the other two sides of the triangle, but shall contain a greater angle.

8. In equal circles, the angles which stand upon equal circumferences are equal to one another, whether they be at the centres or circumferences.

9. Describe a circle about a given square.

10. Find a straight line that is (1) an arithmetic mean, (2) a geometric mean, between two given lines.

11. Draw a straight line perpendicular to a plane from a given point above it. All sections of a sphere by planes are circles.

12. Similar triangles are in the duplicate ratio of their homologous sides.

13. If the normal at any point P of a conic meet the axis in G, show that $SG : SP :: SA : AX$, where S is the focus, and $SA : AX$ the eccentricity.

14. The tangent at any point of a parabola bisects the angle between the focal distance and the perpendicular on the directrix.

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15. If PT, the tangent at any point P of an hyperbola, meet the transverse axis in T, and PN be the ordinate, prove that $CN \cdot CT = CA^2$, C and A being the centre and vertex respectively.

16. Tangents to an ellipse, at right angles to one another, meet on a fixed circle.

SATURDAY, JULY 19, from 2 to 4.30 P.M.

C. Mathematics.

1. Trigonometry.

1. Express in degrees the angle of which the circular measure is unity.

Given that $\cos\theta = 1 - \frac{\theta^2}{1.2} + \frac{\theta^4}{1.2.3.4} - \&c.$, where θ is the circular measure of an angle; and assuming π to be $\frac{22}{7}$; find to six places of decimals the numerical value of $\cos 3^\circ 9'$.

2. Prove that

(1) $\sin 2ma \sin 2na = \sin^2(m+n)a - \sin^2(m-n)a$;

(2) $\tan^{-1}\left(\frac{x \sin a}{1 - x\cos a}\right) - \tan^{-1}\left(\frac{x - \cos a}{\sin a}\right) = \frac{\pi}{2} - a.$

3. Eliminate y between the equations

$$\sqrt{3}\tan x + \tan y = \sqrt{3} + 1, \quad x + y = n\pi + \frac{\pi}{2};$$

and solve the resulting equation in x.

4. Prove that in any triangle ABC, if a, b, c are the sides; s the semi-perimeter; r, r_a, r_b, r_c, the radii of the circles which touch the sides or sides produced; Δ, the area;

(1) $\sin\frac{A}{2} = \sqrt{\frac{(s-b)(s-c)}{bc}}$;

(2) $\left(\frac{1}{r} - \frac{1}{r_a}\right)\left(\frac{1}{r} - \frac{1}{r_b}\right)\left(\frac{1}{r} - \frac{1}{r_c}\right) = \frac{abc}{\Delta^3}$.

5. In the triangle ABC, $A = 87^\circ 30'$, $B = 35^\circ 15'$, $c = 144$: find b.

$L \sin 35^\circ 15' = 9{\cdot}7612851$, $L \sin 57^\circ 15' = 9{\cdot}9248161$,
$\log 144 = 2{\cdot}1610684$, $\log 9943 = 3{\cdot}9975349$, diff. 437.

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6. The angles of elevation of the top of a tower at stations A, B in the horizontal plane are 45° and 30° respectively; A and B are 80 yards apart; and the angle subtended at A by a line joining B to the foot of the tower is 90°: find the height of the tower.

---

2. Mensuration and Surveying.

$[\pi = \frac{22}{7}.]$

7. If two balls of metal, 6 inches and 8 inches respectively in diameter, are melted together and recast into a spherical shell, of which the external diameter is 12 inches; what will be the thickness of the shell?

8. A kiln is built in the form of a frustum of a cone 28 feet high, having an orifice at the top surmounted by a cylindrical chimney 4 feet high; the external diameter of the base is 27 feet, that of the top and of the cylinder 6 feet; the internal diameters are 24 feet and 3 feet: how many cubic feet of masonry are there in the structure?

9. Plan and find the area of a field from the following notes:—

	Links	
	to B	
	1350	
E 120	675	
	450	224 D
C 76	300	
	From A	

---

3. Algebraic Geometry.

10. Find the equation of a straight line in terms of the intercepts on the coordinate axes.

A_1, A_2 are given points in the axis of x; B_1, B_2 in the axis of y: find the equation of the straight line which connects the point of intersection of A_1B_2, A_2B_1 with that of A_1B_1, A_2B_2.

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11. Find in its most general form the equation of a circle referred to oblique coordinates; and thence derive the equation when the axes are rectangular and the circle passes through the origin.

If a circle be described about a right-angled triangle, shew that the tangent at the right angle divides the hypotenuse externally in the duplicate ratio of the sides.

12. Prove that if one diameter of an ellipse bisects the chords parallel to another, the chords parallel to the former are likewise bisected by the other.

If CQ be conjugate to the diameter parallel to the normal at P, then CP is conjugate to the diameter parallel to the normal at Q.

13. Find the polar equation (1) of a parabola, (2) of the tangent to a parabola in terms of its inclination to the axis, the focus being the pole.

The tangent meets the latus rectum in L and the directrix in M; find the locus of the centre of the circle inscribed in the triangle SML, S being the focus.

14. Define an asymptote; and shew that the asymptotes of the conic $ax^2+2hxy+by^2+2gx+2fy+c=0$ are parallel to the straight lines represented by $ax^2+2hxy+by^2=0$.

Draw the curve whose equation is

$$x^2-3xy-2y^2+x+7y-3=0.$$

FRIDAY, JULY 18, from 5.30 to 7.30 P.M.

D. Mathematics.

I. Mechanics and Mechanism.

1. Any number of forces in a plane, meeting in one point, parallel and proportional to the sides of a closed polygon taken in order, are in equilibrium.

Forces proportional to 4, $2\sqrt{2}$, $3\sqrt{2}$ act on a particle in directions parallel to the hypotenuse and sides of a right-angled isosceles triangle taken in order: find the magnitude and direction of the resultant.

2. Find, in magnitude and position, the resultant of two parallel forces acting in opposite directions; and discuss the case in which the forces are equal.

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Two forces, inclined at an angle of 120°, have a resultant $22R$; if they were parallel and in opposite directions, the resultant would be $8R$. Find the forces.

3. Find the centre of gravity (1) of a uniform bar, bent so as to form four sides of a regular hexagon; (2) of a quadrilateral figure one diagonal of which divides it into an equilateral triangle and a right-angled isosceles triangle having that diagonal as base.

4. Find the relation of the power to the weight in a system of pulleys arranged in two blocks, in which the same cord passes round all the pulleys.

A weight of one ton is to be hauled up a smooth inclined plane, of which the inclination to the horizon is 30°; to do this a rope is attached to the weight and carried over a pulley fixed above the plane; the end of the rope is pulled by means of two blocks, each containing three pulleys; find the tension of the cord round these pulleys when the rope is inclined at 30° to the plane.

5. Enunciate the Laws of Motion.

Find the velocity acquired by a body falling for a given time under a given acceleration.

A body moves in a straight line under an acceleration of 6·5 foot-seconds per second: in what time will it acquire a velocity of 130 miles an hour?

6. Shew that there are in general two directions, and only two, in which a heavy particle may be projected from a given point with a given velocity so as to strike another given point. What are the exceptions?

A particle, projected from a point in a plane inclined to the horizon at an angle of 45°, strikes the plane at right angles: find (1) the angle at which the particle is projected, and (2) the other angle at which it might have been projected so as to strike the plane at the same point.

7. In the direct impact of perfectly elastic bodies, the sum of the masses of the bodies multiplied each by the square of its velocity is the same before and after impact.

Two balls whose weights are as 4 : 1, moving in the same direction with velocities as 7 : 2, impinge directly; the faster ball is brought to rest; prove that this is also the lighter, and find the modulus of elasticity.

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8. Two particles, of mass m and n, are connected by a string which passes over a fixed pulley; find the tension of the string, and prove that the acceleration of the common centre of gravity is $g\left(\frac{m-n}{m+n}\right)^2$.

2. Hydrostatics.

9. Define specific gravity.

If the specific gravity of lead is 11·324, of fir 0·45, of cork 0·24; how much cork must be attached to 10·5 cubic inches of lead that the united mass may weigh the same as an equal bulk of fir?

10. Prove that the pressure of a fluid on a plane surface immersed in it is equal to the weight of a column of the fluid the base of which is the surface immersed, and the height is equal to the depth of the centre of gravity of the surface below the surface of the fluid.

A triangle immersed in a fluid, with one side in the surface of the fluid, is divided into two equal parts by a straight line parallel to that side; compare the pressures on the two parts of the triangle.

11. Describe an air pump, and shew that the density of the air in the receiver after successive strokes of the piston, or turns of the wheel, diminishes in geometrical progression.

If the volume of the receiver be ten times that of the cylinder, and the temperature in the receiver, reckoned from the freezing point, be doubled by applied heat after each stroke of the piston, find an expression for the pressure after three strokes.

MONDAY, JULY 14, from 11 A.M. to 1 P.M.

E. 1. Physics.

[N.B. No Candidate will pass in this subject who does not shew a fair knowledge of (*a*) and of either (*b*) or (*c*). Any Candidate who attempts any part of (*b*) will not obtain credit for any work he may do in (*c*).

All the calculations are to be given at length, and figures should be drawn of the apparatus referred to.]

(*a*)

1. Explain the Triangle of Forces, and apply it to determine the relation between the weight of a body supported on an inclined plane, and the reaction of the plane.

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2. Three parallel concurrent forces, whose magnitudes are as the numbers 1, 2, 3, are applied at the corners of an equilateral triangle. Determine the magnitude and point of application of the resultant.

3. Explain the terms *momentum*, *energy*, and *work*.

A cannon ball whose mass is 50 lbs. is moving with a velocity of 100 feet per second. What is its momentum, and what is its energy?

4. A body is thrown up a smooth plane, inclined at 30° to the horizon, with a velocity of 1·96 metres per second. How far will it ascend, and what time will elapse before it reaches the point from which it started? ($g = 980$ cm. sec.)

5. Why does a body weigh less in water than *in vacuo*? What is a hydrostatic balance, and how is it used?

6. What does a barometer measure?

Describe the construction and mode of reading a standard mercury barometer.

(*b*)

1. Describe and explain the behaviour of a compass needle and of a dipping needle (1) at the north magnetic pole of the earth, (2) at some place on the magnetic equator.

2. Explain the action of the electrophorus.

3. Describe the Leyden jar, and account for the brilliant spark obtained by its discharge.

What is the influence of the thickness of a Leyden jar on the charge which can be communicated to it by an electrical machine?

4. Why are two-fluid voltaic batteries preferred to single fluid batteries?

Describe and explain the action of a cell of Daniell's battery.

5. State Ohm's law, and explain the symbols used in the formula.

The current from 3 Grove's cells, arranged in series, is passed through a galvanometer of 1·3 ohms resistance. If the resistance of each cell is 0·2 ohm, and the strength of the current is 3 ampères, what is the E. M. F. of each cell?

6. Describe the simple phenomena of current induction.

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(c)

1. Describe how the 'fixed points' on a mercurial thermometer are determined. In determining the boiling point, why is it necessary to observe the barometer? Is the freezing point affected by the height of the barometer, and if so, why?

2. What is meant by saying that the energy of a pound of steam at 100° is greater than that of a pound of boiling water? How would you determine the difference between the two in foot-pounds?

3. What is the relation between the volume and temperature of a given quantity of air, when the pressure is constant? Describe the experiments by which the relation was established.

4. Show how to construct a gridiron pendulum, and explain the use of it.

5. Explain the considerable reduction of temperature which occurs when ice and salt (both at 0° C.) are mixed together.

6. Describe a method of determining the latent heat of water. How many units of heat would cause a mixture of ice and water to contract by 50 cubic millimetres, if 100 cub. mm. of water at 0° become 109 cub. mm. of ice on freezing? The latent heat of water is 80.

WEDNESDAY, JULY 16, FROM 5.30 TO 7.30 P.M.

E. 2. Chemistry.

1. Write out the equation for the preparation of the element Bromine from potassium bromide; and calculate how much potassium bromide is required to prepare 10 grams of bromine.

2. How would you make a specimen of pure phosphoric acid from the element phosphorus? Give the formula of common sodium phosphate, and state what substance results when this salt is heated to redness.

3. Give the preparation and formula of sodium thiosulphate (formerly called sodium hyposulphite); to what purposes is it applied in the arts? What are the qualitative reactions which distinguish a thiosulphate from a sulphite?

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4. Describe a method for the preparation of cyanogen gas; what are its properties, and what substances are produced when it is burned in air, or exploded with oxygen?

5. Enumerate the various native forms of silica which are known to you. How may pure silica be artificially prepared? What is the action of (1) hydrochloric acid, (2) hydrofluoric acid on crystalline silica?

6. Describe the process usually adopted for the preparation of metallic lead from galena. Given the metal, prepare from it (1) litharge, (2) red lead, (3) white lead.

7. Explain with equations the following reactions:—Ammonium sulphide with a solution of alum; Phosphorus trichloride and water; Chlorine and solution of potash at 0° and at 100°; Chlorine and ammonia. And the action of a red heat on ammonium alum, potassium perchlorate, and ferric sulphate.

8. Calculate the simplest formula for a salt having the following percentage composition:—

$$\begin{aligned} K &= 41{\cdot}05 \\ S &= 33{\cdot}69 \\ O &= 25{\cdot}26 \\ \hline & \ 100{\cdot}00 \end{aligned}$$

Give the details of the work—K = 39, S = 32.

THURSDAY, JULY 17, from 5.30 to 7.30 P.M.

E. 2. Chemistry.

(*Practical Examination.*)

The tubes marked I, II, and III contain single substances, consisting of one metallic and one non-metallic radical.

The tube IV contains a mixture of two substances.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Lead Nitrate. II. Potassium hyposulphite. III. Calcium phosphate. IV. Manganese Sulphate and Iron Sulphate mixed.

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SATURDAY, JULY 19, from 9 to 11 A.M.

E. 3 (*a*.) Botany.

[N.B. Candidates are recommended to pay special attention to the first three questions.]

1. Describe in botanical language the specimens A and B, and refer them to their orders in the natural system.

2. Describe a typical dicotyledonous flower (e.g. a rose or primrose) in all its parts, clearly explaining the functions of each. What takes place when fertilization occurs?

3. How does a fern propagate? Give a full account of the whole process.

4. What is the microscopic structure of a transverse section of a leaf. How do aquatic leaves differ from aerial?

5. From what plants are sago, sugar, quinine, flour, coffee, and tea obtained? State what parts of the plants these substances are.

6. Give an account of some of the mechanical arrangements by which seeds are spread abroad. Why has pollen got no special modifications for this purpose?

7. What are an achene; drupe, pepo, berry, legume? What form of fruit is produced by the Ash, Elm, Bramble, Bean, Thorn, and Apple respectively?

SATURDAY, JULY 19, from 9 to 11 A.M.

E. 3 (*b*). Zoology.

[Do not attempt more than five questions.]

1. What are the essential structural and physiological differences between a rose and a man?

2. What are jellyfishes, where do they live, and how are they reproduced?

3. Describe the structure and life-history of some one parasite of the human body.

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4. Describe the organs of digestion in the cockroach.

5. How does a snail breathe? Describe its heart and compare it with that of a fresh-water mussel.

6. Describe the arrangement of the stomach and the process of rumination in the sheep.

7. What is saliva, and what are its functions?

SATURDAY, JULY 19, from 9 to 11 A.M.

E. 3 (*c*). Geology and Mineralogy.

1. What is the chemical composition of—Calcite, Gypsum, Iron Pyrites? Where should you expect to find these minerals?

2. What is the structure of the following rocks:—Oolite, Breccia, Quartzite, Pumice? Give some account of the origin of each.

3. Describe a typical river valley.

4. Classify the Jurassic rocks as minutely as possible.

5. What is known as to the origin of the chalk?

6. Mention the chief agencies of denudation, giving a short account of each.

7. In what stratum does the earliest bird appear? Give some account of the peculiarities of its structure.

8. What is the distribution in time of the following Cephalopods:—Ammonite, Ceratite, Nautilus: and of the Brachiopods:—Spirifera, and Terebratula?

9. Name six of the most characteristic fossils of (1) White Chalk, (2) the Pliocene, (3) the Wenlock series.

10. Name and describe the rocks, minerals (A, B, C, D) and fossils (E, F, H, I), giving the chemical composition of the minerals, the mineral constituents of the rocks, and the geological age of the fossils, with some account of their position in the animal kingdom.

The specimens were:—A. Granite. B. Oolite. C. Selenite. D. Hæmatite. E. Belemnites Hastatus. F. Rhynchonella Tetraëdra. H. Sponge (Manon). I. Græphæa Dilatata.

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ONE HOUR AND A HALF ALLOWED.

F. 1. Drawing from the Solid.

Make a shaded drawing of the objects placed before you.

In this Exercise the Candidate must give careful attention to the gradations of shade on the rounded surfaces, and to justness of contour, rather than to mechanical perfection in the execution. Any method of shading may be employed, but the modelling should be expressed entirely by differences of depth in shade, and not in any degree by the direction of lines. Exaggeration of darkness is particularly to be avoided.

The objects were :—a carpenter's mallet, a rectangular block, and a conical paper lampshade.

THURSDAY, JULY 17, from 5.30 to 7.30 P.M.

F. 2. Drawing in Perspective.

[N.B. For this Exercise the ordinary ruled-paper is to be used, not drawing paper.]

A scaffold pole, 16 ft. high, rises vertically from the ground at a point 4 ft. to the left of the spectator and 6 ft. within the picture.

A second upright pole of the same height stands at a distance of 12 ft. to the left of this in a direction from it making an angle of 45° with the plane of the picture.

They are joined by a third pole which crosses them horizontally at a distance of 3 ft. from the top and projects 3 ft. beyond each.

The frame thus formed is the first of a series of four similar ones which stand parallel to it at intervals of 10 ft.; the lines joining corresponding points in them being inclined to the right at 45° with the picture plane. Put this into perspective. The thickness of the poles is left to the choice of the Candidate.

Height of eye 5 ft.

Distance of picture 20 ft.

Scale $\frac{1}{4}$ inch to the foot.

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JULY EXAMINATION.

THREE HOURS ALLOWED.

F. 3. Drawing in Colour from a Natural Object.

On a sheet of blue sugar paper are placed a plain tin funnel, a small jug of brown glazed earthenware, and a lemon, having for a background a white napkin loosely thrown over some object a little higher than the others.

Make a drawing in Colour of these objects.

JULY EXAMINATION.

ONE HOUR AND A HALF ALLOWED.

F. 4. Drawing from Memory.

Make a drawing from memory of a tall eight-day clock and a hanging lamp.

A view in perspective of these objects must be given, as a mere elevation of either the front or side is inadmissible.

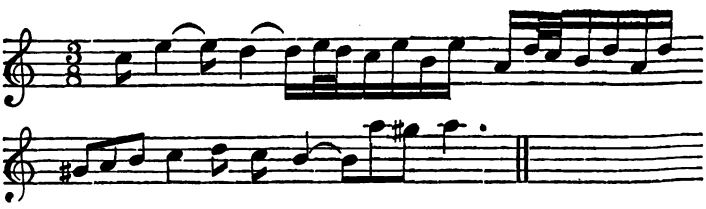
FRIDAY, JULY 18, from 5.30 to 7.30 P.M.

G. Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music paper.]

1. Add the bars to the following passage:—

J. S. BACH.



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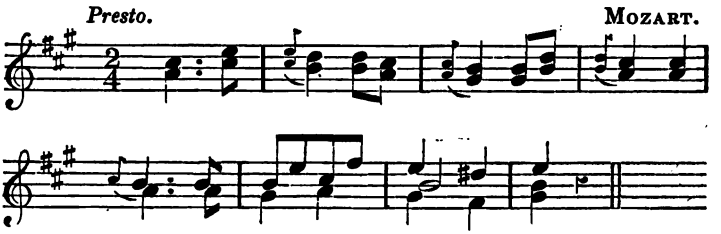
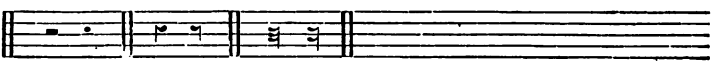
2. Write out the following passages in notation which dispenses with appoggiaturas:—

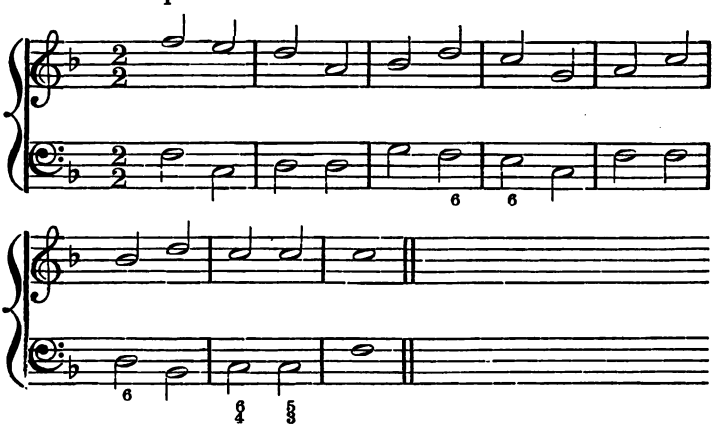


3. Write down the ascending scale of A Major, and the two Major scales which are most closely related to it, using accidentals, but not prefixing the key signature. Mark the place of the semitones.

4. Write down notes which are equivalent in length to the following rests or groups of rests. Dotted notes must not be used.



5. Add an Alto and a Tenor part to the following exercise on the Common Chord and its inversions, making it into music in four parts:—



[This question (No. 5) and the following (No. 6) may be answered in 'short score'—that is, on two staves (treble and bass), but extra marks will be allotted if they are written out in open score with the proper clefs.]

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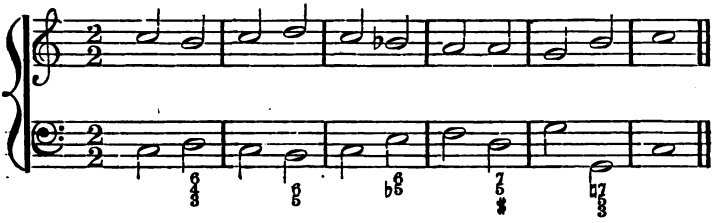
6. Add an Alto and a Tenor part to the following exercise on the Dominant Seventh and its inversions, making it into music in four parts :—



7. Point out any of the characteristic features of the following forms of composition:—(1) Minuet; (2) Gavotte; (3) Rondo.

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UNIVERSITY OF OXFORD.

LOCAL EXAMINATIONS.

PAPERS OF THE EXAMINATION

HELD IN JUNE 1885,

WITH

LISTS OF THE DELEGATES AND THE EXAMINERS
AND THE REGULATIONS AND NOTICES,
PREFIXED.

OXFORD:
PRINTED FOR THE DELEGACY
AT THE CLARENDON PRESS:
AND SOLD BY JAMES PARKER AND CO., OXFORD,
AND 6 SOUTHAMPTON STREET, STRAND, LONDON.
1885.

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THE STATUTE

AS APPROVED BY CONVOCATION, MAY 8, 1883,

AND

AMENDED BY CONVOCATION, APRIL 28, 1885.

Sectio IV. *Of the Delegates of Local Examinations.*

§ 1. *Of the number of the Delegates and of the Report to be made to Convocation.*

1. For the purposes of this Statute there shall be a Delegacy consisting of the Vice-Chancellor and Proctors and eighteen Members of Convocation elected as follows, namely, six by the Hebdomadal Council from its own number, six by the Congregation of the University, and six by the Vice-Chancellor and Proctors, each holding office for six years and re-eligible. Of the eighteen elected Members three in each section shall vacate office immediately after each triennial election to the Hebdomadal Council. Vacancies at any time before the expiration of the proper period shall be supplied only to the end of such period.

2. The Delegates shall make a report of their proceedings every year to Convocation.

§ 2. *Of the Local Examinations.*

1. There shall be two Examinations of persons who are not members of the University, to be held once at least in every year, which shall be called respectively the Senior and the Junior Examination. No person shall be admitted to the Junior Examination who on the first day of July in the year in which the Examination is held shall have attained the age of sixteen years. The Senior Examination shall be open without limit of age.

2. The Delegates shall have power to determine the date, place, subjects, and mode of Examination, and to grant certificates to those Candidates who shall have satisfied the Examiners. The title

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of Associate of Arts shall be given to those persons who shall have passed the Senior Examination and shall not have attained the age of nineteen years on the first day of July in the year in which the Examination is held. Candidates who have exceeded this age shall not have their names placed in any List of Honours.

3. Every Candidate shall be examined in Religious Knowledge, but this provision shall not apply to any Candidate who, being of full age, shall object to such examination, nor to any Candidate under full age whose parent or guardian shall make such objection.

4. The Delegates shall have power to grant to any Candidate in the Senior Examination who shall have satisfied the Examiners a certificate that he has shown sufficient merit to be excused from Responsions, provided that he has shown such proficiency in Latin, in Greek, and in the elements of Mathematics as would have enabled him if he had offered himself to be examined in Responsions to satisfy the Masters of the Schools in each of those subjects.

5. The names of the Examiners appointed by the Delegates to conduct the Examinations shall be submitted to Convocation for approval. If any Examiner so approved die, resign, or be deposed from his office, his place shall be supplied by another person nominated by the Delegates and approved by the Vice-Chancellor and Proctors.

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THE DELEGATES.

Official.	The Vice-Chancellor, The Senior Proctor, The Junior Proctor.
Members of the Hebdomadal Council.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. H. F. Pelham, M.A., Fellow and Tutor of Exeter College. Rev. W. Ince, D.D., Canon of Christ Church, Regius Professor of Divinity. Rev. B. Price, M.A., Fellow and late Tutor of Pembroke College, Sedleian Professor of Natural Philosophy. Rev. J. R. King, M.A., Fellow and Tutor of Oriel College.
Elected by Congregation.	Rev. J. Griffiths, D.D., Wadham College, Keeper of the Archives. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. E. Chapman, Esq., M.A., Fellow and Tutor of Magdalen College. Rev. G. Rawlinson, M.A., late Fellow and Tutor of Exeter College, Camden Professor of Ancient History. J. E. T. Rogers, Esq., M.A., Worcester College. E. B. Poulton, M.A., Jesus College, Lecturer of Keble College.
Nominated by the Vice-Chancellor and Proctors.	Rev. E. Moore, D.D., Principal of St. Edmund Hall. A. Robinson, Esq., M.A., Fellow and Lecturer of New College. Rev. J. F. Bright, D.D., Master of University College. Rev. J. Percival, M.A., President of Trinity College. Rev. H. B. George, M.A., Fellow and Tutor of New College. A. H. D. Acland, M.A., Student of Christ Church.

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Oxford Local Examinations.

REGULATIONS

AND

TIME TABLE

FOR THE YEAR

1885.

The Examinations will be held in June at Bath (Boys), Bristol (Girls), Crosby (Boys), Crystal Palace (Girls), Hilton (Natal), Liverpool, Oxford, Preston (Boys), Streatham Hill, Warwick, and Watford.

The Examinations will be held in July at Bath (Girls), Bedford High School for Girls, Bedford French Protestant College (Girls), Berkhamsted, Birmingham, Birmingham (Five Ways) (Boys), Boston (Boys), Brighton, Bristol Grammar School (Boys), Cheltenham, Coventry (Boys), Downside (Boys), Kingsbridge (Boys), Leicester, Lincoln, Liverpool, Llandudno, London, Lytham, Manchester, Milton Mount (Girls), Nottingham, Oswestry, Oxford, Penrith, Peterborough, Portsmouth (Boys), Preston, Ramsgate, Reigate, Rotherham (Boys), Rugby, St. Helens, Salisbury, Southampton, Southwark (Boys), Stroud (Brounshill Court) (Girls), Swansea, Swansea Grammar School (Boys), Taunton, Thame, Truro, Warrington (Boys).

Both Boys and Girls will be examined at all centres as to which it is not otherwise stated.

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OXFORD LOCAL EXAMINATIONS.

REGULATIONS FOR THE YEAR 1885.

Two Examinations will be held in the year 1885, commencing on Monday, June 8, and Monday, July 13, respectively.

The Examinations at each Centre will be held at either of these times or both, as the Local Committee may desire. Notice of the time or times at which it is desired that the Examinations should be held must be given to the Delegacy before Feb. 1st, 1885, and the Local Committee must guarantee a payment of £25 for each Examination held at the Centre, in case the Fees paid by the Candidates at each Examination so held fall below that sum. No person may be examined twice in the same year as a Senior or as a Junior Candidate.

EXAMINATION OF JUNIOR CANDIDATES.

(*For Certificates.*)

Any person of either sex born on or after July 1, 1869, may be received as a Candidate. No one born before that day will be received*.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **Reading aloud** a passage from some English author.
2. **Writing from Dictation.**
3. **English Grammar and Composition.** Passages will be set for parsing, paraphrase, and explanation. Candidates will be required also to write a short English Composition.
4. **Arithmetic.** Numeration, the first Four Rules, simple and compound, Reduction, Vulgar and Decimal Fractions, and the Single Rule of Three.

N.B. The quality of the handwriting and the spelling will be taken into account.

* Persons who intend to become Medical Students can be admitted above the age of 16, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the General Medical Council, or other the proper authority for the time being, of their success.

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PART II.

The Examination will comprise the following subjects:—
1. **Religious Knowledge.** 2. **English.** 3. **Latin.** 4. **Greek.** 5. **French.** 6. **German.** 7. **Mathematics.** 8. **Mechanics and Mechanism.** 9. **Chemistry.**

Every Candidate will be required to satisfy the Examiners in three at least of these subjects. No Candidate will be examined in more than six. All Candidates must be examined in at least one of the divisions of Religious Knowledge, unless their Parents or Guardians object to this part of the Examination.

1. **Religious Knowledge.** (*a*) The First Book of Samuel and Ruth. (*b*) The Gospel according to St. Luke. (*c*) The Acts xiii–xxviii. (*d*) The Catechism.

Opportunity will be given for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

2. **English.** (*a*) The Outlines of Greek History from 510–404 B.C., with special questions on the Persian War, and the Outlines of Roman History from 509–242 B.C., with special questions on the First Punic War. (*b*) The Outlines of English History from the Norman Conquest to the Battle of Waterloo, with special questions on the period from 1553–1588. (*c*) Shakspeare's "Tempest*". (*d*) Physical, Political, and Commercial Geography. An Outline Map of one of the following countries will also be given to be filled up, viz. England and Wales, Scotland, Germany, or South America.

   No Candidate will pass in **English** who does not satisfy the Examiners in two of the four divisions (*a*), (*b*), (*c*), (*d*). No Candidate will be examined in more than three of them, or be allowed to take (*a*) and (*b*) together.

3. **Latin.** Passages will be given from Caesar, Bell. Gall. I, II*, and from Virgil (Aen. XII*) for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

   An easy passage from some other Latin author will be set for translation into English. A few easy English sentences to illustrate common Latin constructions, and a short passage from some English writer, will be given for translation into Latin.

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* Sophocles, Ajax, price 2*s.*; Caesar, Gallic War, price 4*s.* 6*d.*; Virgil, price 10*s.* 6*d.* (or separately, Text 4*s.* 6*d.*, Notes 6*s.*); Homer, Od. I–XII., price 4*s.* 6*d.*; Xenophon, Anabasis, Book II., price 2*s.*; Shakspeare's Tempest, price 1*s.* 6*d.*; Burke's Thoughts on the Present Discontents, price 4*s.* 6*d.*; Molière's Les Fourberies de Scapin, price 1*s.* 6*d.*; Schiller's Historische Skizzen, price 2*s.* 6*d.* (each with Introduction and Notes); are published in the Clarendon Press Series; and may be obtained of Mr. H. Frowde, Oxford University Press Warehouse, Amen Corner, London; and of all booksellers.

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4. **Greek.** Passages will be given from Xenophon Anabasis II*, and from Homer Od. IX* for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

An easy passage from some other Greek author will be set for translation into English.

5. **French.** A passage will be given from Molière's 'Les Fourberies de Scapin"* for translation into English with grammatical and general questions. A passage from a French Newspaper will be set for translation into English, and English sentences for translation into French.

6. **German.** A passage will be given from Schiller's "Historische Skizzen"* for translation into English, with grammatical and general questions. A passage from a German Newspaper will be set for translation into English, and English sentences for translation into German.

7. **Mathematics.** No Candidate will pass in this subject who does not shew a fair knowledge of Euclid, Books I and II, and of Algebra to Simple Equations including Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, and Simple Equations containing one or two unknown quantities and problems producing such equations.

Questions will also be set in the following subjects: (1) Euclid III, IV, VI; (2) Quadratic Equations, Progressions, and Proportion; (3) Plane Trigonometry, including Solution of Triangles, and the use of Logarithms; (4) Mensuration. No credit will be given for a slight knowledge of any of these subjects.

The answers should be illustrated by diagrams, where these can be introduced.

*** Euclid's axioms will be required, and no proof of any proposition will be admitted which assumes the proof of anything not proved in preceding propositions of Euclid.

8. **Mechanics and Mechanism.** The Questions will be of an elementary character, extending, in Statics, to the Composition and Resolution of Forces, the determination of the Centre of Gravity in simple cases, and the Mechanical Powers; in Dynamics, to Impact and Collision, the Motion of Falling Bodies, and Attwood's Machine; in Hydrostatics, to the Pressure of Fluids, and the ordinary Hydrostatical and Pneumatical Instruments.

The answers should be illustrated by diagrams, where these can be introduced.

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* See note on p. 3.

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9. **Chemistry,** including the elementary facts of Chemistry, as illustrated by the following elements and their combinations:—

Oxygen	Carbon	Sulphur	Sodium
Hydrogen	Chlorine	Phosphorus	Calcium
Nitrogen	Iodine	Potassium	Iron.

There will also be a practical examination in the analysis of simple salts (consisting of one acid and one base). Candidates must satisfy the Examiners in the practical examination in order to pass in this subject.

Candidates may also offer themselves for examination in

1. *a.* Drawing from the Flat.
   b. Drawing from the Solid, with light and shade.
2. Music. Questions will be set on Notation, Intervals, Scales, Time, and Rhythm, Signs and Marks of Expression, the Common Chord and its inversions, the Dominant Seventh and its inversions. A short and simple figured bass may be given to be harmonized in accordance with elementary rules.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions; those in the First and Second Divisions will be placed in order of merit; those in the Third Division in numerical order under the several Centres.

Certificates will be issued to the successful Candidates, specifying the subjects in which they satisfied the Examiners, and the Division in which their names are placed.

Lists will be published of the Candidates who distinguish themselves in each of the subjects from 1 to 9 inclusive, provided that they also obtain Certificates. The names will be arranged in order of merit.

EXAMINATION OF SENIOR CANDIDATES.

(*For the Title of Associate in Arts.*)

Any person of either sex born on or after July 1, 1867, may be received as a Candidate. No one born before that day will be received *.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **English Grammar, Analysis, and Composition.**
2. **Arithmetic.**

N.B. The quality of the handwriting and the spelling will be taken into account.

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* Persons who intend to become Candidates for the Degree of Bachelor of Music or Medical Students can be admitted above the age of 18, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the Professor of Music, or the General Medical Council, or other the proper authority for the time being, of the success of such Candidates.

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PART II.

The Examination will comprise the following Sections:—

A. **Religious Knowledge.** B. **English.** C. **Languages.** D. **Mathematics.** E. **Natural Science.** F. **Drawing.** G. **Music.**

Every Candidate will be required to satisfy the Examiners in two at least of the Sections A, B, C, D, E, but if both A and B are offered they will also be required to satisfy the Examiners in either C, D, or E. No Candidate will be examined in more than five of the Sections A, B, C, D, E, F, G.* All Candidates must be examined in one at least of the divisions of Religious Knowledge, unless their parents or guardians object to this part of the Examination.

SECTION A.—RELIGIOUS KNOWLEDGE.

(1) The First Book of Samuel and Ruth; (2) The Gospel according to St. Luke; (3) The Acts, xiii–xxviii; (4) The Second Epistle to the Corinthians; (5) The Catechism, the Morning and Evening Services, and the Litany, and the outlines of the History of the Book of Common Prayer.

Opportunity will be given for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

SECTION B.—ENGLISH.

1. The Outlines of **Greek History** from 510–404 B.C., with special questions on the Persian War, and the Outlines of **Roman History** from 509–242 B.C., with special questions on the First Punic War.
2. **English History** from 1553–1603, and the outlines of the History of **English Literature** during the same period, together with the general outlines of English History from the Norman Conquest to the Battle of Waterloo.
3. **Shakspeare's** "Tempest†", and **Burke's** "Thoughts on the Present Discontents†."
4. **Physical, Political, and Commercial Geography** An Outline Map of one of the following countries will also be given to be filled up: viz. England and Wales, Scotland, Germany, India, or South America.
5. The elements of **Political Economy.**

No Candidate will pass in this Section who does not shew a fair knowledge of two of these five divisions. No Candidate will be examined in more than three of them, or be allowed to offer 1 and 2, or 4 and 5 together.

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* Candidates may not offer both French and Italian; or both Music and Physics; or both Greek and Botany, Zoology or Geology. † See note, page 3.

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SECTION C.—LANGUAGES.

1. **Latin.** 2. **Greek.** 3. **French.** 4. **German.** 5. **Italian.**

No Candidate will pass in this Section who does not shew a fair knowledge of one of these languages. No Candidate will be examined in more than four of them. French and Italian may not be taken together.

Candidates who offer Latin will be examined in Livy, Book XXII, and Virgil Aen. XII*, and those who offer Greek in Xen. Anab. I, II*, and Sophocles, Ajax *. In other languages no books are prescribed.

In each of the five languages questions on grammar will be set, and passages will be given both from unprepared books for translation into English, and of English for translation into Latin, French, German, or Italian, as the case may be.

SECTION D.—MATHEMATICS.

Pure Mathematics to **Algebraical Geometry** inclusive, **Mechanics** (including Mechanism), and **Hydrostatics.**

No Candidate will pass in this Section who does not shew a fair knowledge of Four Books of Euclid, and of Algebra to the end of Quadratic Equations, including Addition, Subtraction, Multiplication, and Division of Algebraical Quantities (including simple irrational quantities expressed by radical signs or fractional indices), Greatest Common Measure and Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, Quadratic Equations containing one unknown quantity, questions producing such equations, and the simplest properties of Ratio and Proportion. The answers should be illustrated by diagrams, where these can be introduced.

*** Euclid's axioms will be required, and no proof of any proposition will be admitted which assumes the proof of anything not proved in preceding propositions of Euclid.

SECTION E.—NATURAL SCIENCE.

1. **Physics.**

(*a*) The elementary properties of matter in its solid, fluid, and gaseous forms; density, mass, gravity, weight, specific gravity, and inertia; composition of two forces; centre of gravity; pressure of fluids; laws of motion; construction and use of simple mechanical, hydrostatical, and hydraulic machines.

(*b*) Elements of Heat.

(*c*) Elements of Electricity and Magnetism.

No Candidate will pass in this subject who does not shew a fair knowledge of (*a*), and of either (*b*) or (*c*). No Candidate will be examined in (*b*) and (*c*) together. Physics and Music may not be taken together.

2. **Chemistry,** including the facts and general principles of Chemical Science. There will be a practical examination in the elements of Analysis. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

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* See note, page 3.

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3. (*a*) **Botany,** including Elementary Vegetable Physiology and the types of the chief divisions of the Vegetable Kingdom.

(*b*) **Zoology,** including Elementary Animal Physiology and the types of the Animal sub-kingdoms.

(*c*) **Geology and Mineralogy.**

No Candidate may offer more than one of these subjects (*a*), (*b*), or (*c*) No part of (3) may be taken with Greek.

No Candidate will pass in this Section who does not shew a fair knowledge of one at least of the divisions 1, 2, 3. In all cases a practical acquaintance with the subject-matter will be indispensable. The answers should be illustrated by diagrams and drawings, where these can be introduced.

Section F.—Drawing.

1. **Drawing from the solid,** with light and shade.
2. **Drawing in perspective.**
3. **Drawing in colour** from a natural object.
4. **Drawing from memory.**

No Candidate will pass in this Section who does not satisfy the Examiners in Drawing from the Solid.

Section G.—Music.

In addition to a thorough knowledge of the subjects prescribed for Junior Candidates, the Seniors must shew an acquaintance with the chords of the Added Ninth and Minor Ninth and their inversions, and must be able to harmonize a figured bass introducing these chords. They may be called upon to add three parts to a given melody.

Music and Physics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions, the First and Second Divisions in order of merit, the Third in numerical order under the several centres.

Lists of those who distinguish themselves will also be published for each of the sections A, B, C, D, E, F, G, arranged in two Divisions. The names in each First Division will be placed in order of merit; those in each Second Division alphabetically.

Certificates, signed by the Vice-Chancellor, will be issued to the successful Candidates, conferring the title of Associate in Arts, and specifying the subjects in which they satisfied the Examiners, and the Division or Divisions in which their names are placed.

Those Candidates who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from Responsions, may receive a Certificate from the Delegates to that effect.

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Candidates will be examined in Oxford, and in such other places as the Delegates may appoint. A list of the Local Centres at present appointed will be found on the next page. Girls may be received for Examination in Oxford and at those Centres which are marked with *. Places marked thus † are SPECIAL LOCAL CENTRES, to which no persons who are not members of the particular Schools may be admitted except at the discretion of the School authorities.

An application to have a place appointed as a Centre should come to the Delegates from a Local Committee: such Committee being prepared to guarantee a payment of £25 (in case the Fees paid by the Candidates fall below that sum) and to undertake all those expenses which are occasioned by the Examination being *Local*, that is, by the Candidates being examined at that particular place instead of coming to Oxford for the purpose. Those expenses are mainly the following: the cost of providing suitable rooms for the Examination; the charges incurred by the Superintending Examiner (appointed by the Delegates) in travelling, lodging, and board; postage; carriage of parcels from and to Oxford; and some stationery. Each Committee should appoint a Local Secretary. Applications must be made, and notice of the discontinuance of old Centres must be given, before the 1st of February, 1885.

Girls may be examined at any place where boys are examined, and at such other places as the Delegates may appoint. But in every case the Delegates must first be satisfied, 1. That there is a Local Committee of ladies, who will efficiently superintend the examination of the girls; 2. That such Committee will see that girls who do not live in the place find suitable lodging and accommodation; 3. That the examination room for the girls is quite separate from that intended for the boys.

The Delegates are prepared to undertake the Examination of Schools. Applications should be made to the Secretary not less than two months before the day on which it is desired that the Examination should commence.

The Local Examinations may, if desired, be combined with a School Examination held under the direction of the Delegacy, and any School so making use of the Local Examinations may be constituted a Special Local Centre. The Regulations under which combined Local and School Examinations will be held may be obtained from the Secretary to the Delegacy.

Printed Forms, on which Candidates are to make application, will be prepared by the 1st of March, and may be obtained after that date from the **Local Secretaries,** whose names are subjoined; for the June Examination until the 31st of March, and for the July Examination until the 30th of April, *after which dates none will be issued.* The Forms for Junior and Senior Candidates are distinct, and applications should state which Forms are required. For examination *in Oxford* the Forms may be obtained from G. E. Baker, Esq., Clarendon Building, Oxford.

The Forms, duly filled up, must be *returned* to the several Local Secretaries for the June Examination by the 4th of April, and for the July Examination by the 2nd of May. No Candidate's name will be received at any place after those days.

Fees. Every Candidate is required to pay to the University a Fee of 20*s*. At every Centre except Oxford there is also a Local Fee. No Fee can be returned under any circumstances, or be carried to the credit of a Candidate at a subsequent Examination.

N.B. The words "Oxford Local Examinations" should be written on the covers of all letters addressed to the Secretaries.

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LOCAL CENTRES AND SECRETARIES.

*Bath	(*Boys*)	H. D. Skrine, Esq., Guildhall, Bath.
		F. Ernest Shum, Esq., 3 Union Street, Bath.
	(*Girls*)	Mrs. Jeffery, 9 Norfolk Crescent, Bath.
†*Bedford High School	(*Girls*)	Miss M. Belcher, High School, Bedford.
†*Bedford French Protestant College	(*Girls*)	Madame de Marchot, French Protestant College, Bedford.
†*Berkhamsted		W. H. Fricker, Esq., King Edward VI School, Berkhamsted.
*Birmingham		G. W. Hickman, Esq., 20 A Temple Row, Birmingham.
†Birmingham Five Ways		Rev. E. F. M. MacCarthy, King Edward's School, Five Ways, Birmingham.
Boston		R. W. Millington, Esq., Boston.
*Brighton	(*Boys*)	Barclay Phillips, Esq., 75 Lansdowne Place, Brighton.
	(*Girls*)	Mrs. H. Martin, 5 Powis Square, Brighton.
†Bristol Grammar School	(*Boys*)	R. L. Leighton, Esq., Bristol Grammar School, Bristol.
*Bristol	(*Girls*)	Miss Cocks, High School for Girls, Redland, Bristol.
*Cheltenham	(*Boys*)	J. Style, Esq., Cheltenham Grammar School, Cheltenham.
	(*Girls*)	Mrs. Mugliston, Newick House, Cheltenham.
		Miss Beale, Ladies' College, Cheltenham.
†Coventry		Rev. W. W. S. Escott, King Henry's School, Coventry.
†Crosby		Rev. S. C. Armour, Merchant Taylors' School, Crosby, Liverpool.
*Crystal Palace	(*Girls*)	Mrs. Robert Hardwicke, School of Art, Science, and Literature, Crystal Palace, S.E.
Downside		Rev. J. A. Howlett, St. Gregory's College, Downside, Bath.
*Hilton, Natal		H. V. Ellis, Esq., Hilton, Natal.
†Kingsbridge		J. H. Square, Esq., Kingsbridge, S. Devon.
*Leicester		Rev. T. N. Philpott, 25 Humberstone Road, Leicester.
*Lincoln		Rev. W. W. Fowler, School House, Lincoln.
*Liverpool	(*Boys*)	E. F. Evans, Esq., Orrell Park, Aintree, Liverpool.
	(*Girls*)	Miss M. Calder, 49 Canning Street, Liverpool.
*Llandudno		W. M. Williams, Esq., The School, Llandudno.
*London	(*Boys*)	H. A. Tilley, Esq., 42 Queen Square, Bloomsbury.
	(*Girls*)	Miss M. E. Drew, 6 Cumberland Terrace, Regent's Park, N.W.
*Lytham	(*Boys*)	E. R. Lightwood, Esq., Pembroke House School, Lytham.
	(*Girls*)	Miss Macdonald, Ladies' High School, Lytham.
*Manchester	(*Boys*)	Rev. T. C. Skeggs, 14 Fitzwarren St., Pendleton, Manchester.
	(*Girls*)	Mrs. Donner, Anson Road, Victoria Park, Manchester.
†*Milton Mount	(*Girls*)	Miss Hadland, Milton Mount School, Gravesend.
*Nottingham		Rev. C. Yeld, University School, Nottingham.
†*Oswestry		O. Owen, Esq., The High School, Oswestry.
*Penrith		W. P. Arnison, Esq., Public Offices, Penrith.
†*Peterborough		Rev. E. J. Cunningham, King's School, Peterborough.
†Portsmouth		Rev. E. P. Grant, The Vicarage, Portsmouth.
†*Preston	(*Boys*)	W. M. Maddox, Esq., Grammar School, Preston.
		Rev. A. B. Beaver, Grammar School, Preston.
	(*Girls*)	Miss Carter, High School for Girls, Preston.
*Ramsgate		Rev. C. E. Eastgate, 31 Augusta Road, Ramsgate.
*Reigate		F. G. Johnson, Esq., The Grammar School, Reigate.
Rotherham		Rev. H. Heap, Grammar School, Rotherham.
*Rugby	(*Boys*)	H. T. Rhoades, Esq., Clifton Road, Rugby.
	(*Girls*)	Miss Sharp, Horton House, Rugby.
†*St. Helens, The Cowley Schools	(*Boys*)	E. T. Simpson, Esq., The Cowley Schools, St. Helen's.
	(*Girls*)	Miss E. Fyfe, The Cowley Schools, St. Helen's.
*Salisbury	(*Boys*)	Rev. H. J. Morton, The Close, Salisbury.
	(*Girls*)	Miss Fawcett, The Close, Salisbury.
*Southampton	(*Boys*)	Rev. J. L. Carrick, Spring Hill, Southampton.
	(*Girls*)	Mrs. Wilberforce, The Deanery, Southampton.
Southwark		T. J. Beckwith, Esq., St. Olave's Grammar School, Southwark.
*Streatham Hill		B. Hawkins, Esq., St. Anne's School, Streatham Hill, S.W.
†*Stroud, Brounshill Court		Miss Winscom, Brounshill Court, Stroud.
*Swansea	(*Boys*)	C. H. Perkins, Esq., 17 Somerset Place, Swansea.
	(*Girls*)	Mrs. Reid, 2, Glanmer Terrace, Swansea.
†Swansea Grammar School		Rev. J. Young, Grammar School, Swansea.
*Taunton	(*Boys*)	Mr. Reginald Barnicott, Parade, Taunton.
	(*Girls*)	Miss Gibson, The Crescent, Taunton.
*Thame		G. Plummer, Esq., Lord Williams's Grammar School, Thame.
*Truro		Rev. G. L. Church, Chacewater Vicarage, Cornwall.
†Warrington		Rev. E. J. Willcocks, School House, Warrington.
*Warwick		Rev. W. Grundy, King's Grammar School, Warwick.
Watford		Rev. A. R. Clemens, London Orphan Asylum, Watford.

EXEMPTIONS FROM VARIOUS EXAMINATIONS.

1. **Senior Candidates (Boys)** who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from **Responsions**, and **Senior Candidates (Girls)** who shew sufficient merit in two languages and in Mathematics to be excused from the **First Examination for Women**, receive Certificates from the Delegates to that effect.

2. A **Senior** Certificate enables a person to become a Candidate for the degree of **Bachelor of Music** if he passes in (1) Section B, (2) Latin and one of the other Languages in Section C, (3) Euclid and Algebra.

3. Persons who have passed any of the public Examinations of the University of Oxford, among which are the Local Examinations, are excused the Preliminary Examination for **Barristers**.

4. A **Senior** Certificate satisfies the preliminary requirements of the **General Medical Council** and the **Royal College of Surgeons**, if it includes Latin and Mathematics; a **Junior** Certificate if it includes Latin and Mathematics and one of the following:—Greek, French, German, and Mechanics.

5. Persons who have passed the Oxford Local Examinations are excused the Preliminary Examination before entering into Articles of Clerkship with **Solicitors**. The published regulations of the Law Society state no special subjects.

6. Any Certificate qualifies the holder to compete for admission to the **National Training School for Teachers in Schools of Art**, if it includes English and either Latin or a modern foreign language.

SCHOLARSHIPS AND PRIZES.

7. **Senior Candidates (Boys).** The Dyke Exhibition, of not less than **£60 a year**, tenable for four years at the University of Oxford, open to any boy, born on or after July 1, 1867, who is a native of any of the counties of Somerset, Devon, and Cornwall, or has for three years past been resident in any of such counties, or has for two years past been educated at any of the Schools in the same counties, provided that he is, in the opinion of the Governors, in need of pecuniary help to support him at the University, will be awarded to such Senior Candidate as the Governors shall think most deserving, having regard to the results of the Examination to be held in 1885.

8. **Senior Candidates (Girls).** One Scholarship, value Thirty Guineas a year, entitling the holder to **free instruction at Bedford College, London**, tenable for two years from Michaelmas, 1885, is offered by the Trustees of Mrs. Reid's Fund for the Higher Education of Women to the Candidate who shall obtain the highest place in the First or Second Division.

9. **The Royal Geographical Society** offers **two Medals**, one of silver and one of bronze, to the two **Senior** Candidates (boys or girls) who shall give the best answers in Geography, provided that their papers are of sufficient merit.

10. **Senior and Junior Candidates (Boys).** The following Scholarships will be offered to Candidates who distinguish themselves sufficiently in the Examinations to be held in June and July next:—

(1) **Tonbridge School.** Value £67 a year out of a total for School expenses of £97. Tenable while the boy remains at the School. Open to any boy who shall be under 15 years of age on July 30, 1885, and who shall obtain distinction in Latin, or Greek, or Mathematics.

(2) **Uppingham School.** Value £90, out of a total for School expenses of £110. Tenable for three years. Open to any boy who shall be under 15 years of age on the 13th of July, 1885, and who shall obtain distinction in Classics.

(3) **Wellington College.** The Scholar will be boarded and educated at an annual charge of £10. Tenable while the boy remains at the School. Open to any boy who shall be under 15 years of age on the 13th of July, 1885, and who shall obtain distinction in Greek and Latin, or Mathematics, provided that he be a son of a deceased officer who within 5 years of his death had been either on full or half pay.

The offer will in no case be made (1) to the son of parents in easy circumstances; nor (2) to any boy educated at a school the authorities of which have previously notified to the Delegates that such boy is not a candidate for a Scholarship.

The authorities of the schools which offer Scholarships reserve the right of deciding whether they will accept a candidate whose name is submitted to them.

The continued or extended tenure of any Scholarship is in every case conditional on the Scholar's conduct and progress being satisfactory.

Examination Papers and Annual Reports with Division Lists, 2*s.* each, also the Papers set at the **Examination of Women**, 2*s.*, and the Report 3*d.*, may be obtained from Messrs. Parker and Co., Oxford, and 6 Southampton Street, Strand, London.

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TIME TABLE FOR 1885.

Monday, *June* 8. „ *July* 13.	*Tuesday*, *June* 9. „ *July* 14.	*Wednesday*, *June* 10. „ *July* 15.	*Thursday*, *June* 11. „ *July* 16.	*Friday*, *June* 12. „ *July* 17.	*Saturday*, *June* 13. „ *July* 18.
11 to 1 Practical Chemistry. } S. J.	9 to 11 *Arithmetic.* S. J. 11 to 1 *English Grammar* and *Composition.* S. J.	9 to 11 Latin (1st Paper). S. 11 to 1 Latin (2nd Paper). S. 9 to 10.30 Latin (1st Paper). J. 10.30 to 12 Latin (2nd Paper). J.	9 to 10.15 French (1st Paper). S. 10.15 to 12.30 French (2nd Paper. S. 9 to 10.15 French (1st Paper). J. 10.15 to 12 French (2nd Paper). J.	9 to 10.30 German (1st Paper). S. 10.30 to 12.30 German (2nd Paper). S. 9 to 10.30 German (1st Paper). J. 10.30 to 12 German (2nd Paper). J.	9 to 11 Botany. Zoology. Geology. } S. *or* 9 to 11 Greek (1st Paper). S. 11 to 1 Greek (2nd Paper). S. 9 to 10.30 Greek (1st Paper). J. 10.30 to 12 Greek (2nd Paper). J.
2 to 3 Old Testament. S. J. 3 to 4 Gospel. S. J. 4 to 5 Acts. S. J.	2 to 4.30 Geography and Map. S. *or* Political Economy. S. 2 to 4 Geography and Map. J.	2 to 4.30 History. S. 2 to 4 History. J. 4 to 4.30 *Dictation.* J.	2 to 4.30 Algebra. S. J.	2 to 4.30 Euclid. S. J.	2 to 4.30 Trigonometry and Mensuration } S. J.
6 to 7 Catechism. J. Prayer Book. S. 7 to 8 Epistle. S.	5.30 to 7.30 Shakspeare. S. J.	5.30 to 7.30 Chemistry. S. J.	5.30 to 7.30 Physics. S. *or* Music. S. J.	5.30 to 7.30 Mechanics. S. J.	

N.B. The letters S. and J. signify Senior and Junior respectively. The times for the exercises in "Drawing" and for "Reading aloud" are subject to the discretion of the Examiner at each place. The times for giving out the Papers at the London and Crystal Palace Centres will be slightly earlier or later, as the case may be, than those stated in this Time Table.

G. E. BAKER,
Secretary to the Delegacy.

OXFORD. May 24, 1884.

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GENERAL NOTICE TO CANDIDATES.

1. **The Examination will commence on Monday, the 8th of June, at 11 a.m.**

2. A Time Table, shewing the hours and subjects of Examination each day, will be sent to every Candidate shortly before the Examination. The same Paper will contain some Directions and Cautions, which Candidates are specially desired to observe.

3. Paper and other writing materials will be provided for the Candidates; but they are expected to bring their own pens.

4. **Candidates in Mathematics,** etc., will be allowed to bring in the usual Mathematical Drawing Instruments; subject however to any limitation which the Examiners may think fit. The usual symbols and abbreviations may be employed in writing Mathematical papers.

5. **Candidates in Drawing** should provide themselves with a Drawing Board measuring about 23 inches by 16, eight Drawing pins, and all other necessary materials, *except paper*, which will be supplied by the University. No instruments of any kind will be allowed, except for the Exercise in Perspective.

6. **Candidates in Chemistry** will receive a Notice, specially addressed to them, containing a list of the Apparatus and of the Re-agents which they are to bring to the Practical Examination.

7. **Candidates in Botany** should bring with them a sharp penknife, two needles mounted in handles, and a magnifying glass.

CENTRES AT WHICH THE EXAMINATIONS WERE HELD IN JUNE, 1885.

The Examinations were held in June at the following centres: Bath (Boys), Bristol (Girls), Crosby (Boys), Crystal Palace (Girls), Hilton (Natal) (Boys), Liverpool, Oxford, Preston (Boys), Warwick, and Watford. Both Boys and Girls were examined at centres as to which it is not otherwise stated.

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OXFORD LOCAL EXAMINATIONS.

NOTICE TO CANDIDATES IN CHEMISTRY.

For the practical Examination each Candidate is required to provide himself with the necessary re-agents and apparatus.

The following lists, which contain all that is needful according to the usual course of analysis, are intended as a guide to Candidates in making this provision. But each one is at liberty to furnish himself for the Examination with such materials as he has been accustomed to employ.

Re-agents.

Solutions.

Hydrate of Potassium.	Sulphate of Calcium.
Ferrocyanide of Potassium.	Nitrate of Barium.
Carbonate of Sodium.	Sulphate of Magnesium.
Phosphate of Sodium.	Nitrate of Silver.
Bitartrate of Sodium.	Sulphuretted Hydrogen.
Ammonia.	Sulphuric Acid.
Carbonate of Ammonium.	Nitric Acid.
Chloride of Ammonium.	Hydrochloric Acid.
Oxalate of Ammonium.	Acetic Acid.
Sulphide of Ammonium.	Chlorine Water.
Lime Water.	Nitrate of Cobalt.

Solid Substances.

Carbonate of Sodium. Borax. Sulphate of Iron.
Peroxide of Manganese. Bichromate of Potassium. White Starch.

Litmus and Turmeric Papers.

Apparatus.

Three funnels, about $2\frac{1}{2}$ inches diameter.
A dozen test-tubes, about 6 inches long by $\frac{5}{8}$ inch diameter.
Another dozen test-tubes, about 6 inches long by $\frac{7}{8}$ inch diameter.
A packet of cut filters, about $3\frac{3}{4}$ inches diameter.
A stand for test-tubes, to hold 24 tubes.
A glass stirring rod, about 8 inches long.

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A small retort stand to support the funnels.

A spirit lamp, to contain about 3 oz., provided with a wick and with 5 oz. of spirit in a bottle.

A washing bottle, holding about 1 pint, to be filled at the time of the Examination.

Two pieces of platinum foil, about 2 × 1 inch, and two platinum wires, about 3 inches long.

A mouth blowpipe.

Two or three pieces of hard glass tubing, and of charcoal, for blowpipe experiments.

A bent tube, fitted with a cork, for conveying a gas from one test-tube to another.

A pair of tongs to hold the platinum foil.

A penknife or spatula.

A cloth.

A test-tube brush.

The room in which the Examination is to be held will be opened half an hour before the time, for the purpose of allowing Candidates to unpack and arrange their re-agents and apparatus. Distilled water and matches will be provided for them.

N. B. The attention of Candidates is called to the importance of writing out their analytical notes in a proper manner. The Examiner can judge of their knowledge and work only from these notes, and cannot give any one credit for a complete analysis if any steps or important statements are omitted in the description of it. The account of the examination of each substance should be written out before proceeding to the next, so that the actual experimenting and the recording of experiments may be carried on as far as possible together. Candidates are cautioned against the common practice of wasting their limited time in preliminary random experiments with the blowpipe. They should first discover by a systematic analysis what the bases are and then confirm their conclusions by as many special tests as possible including those made by the blowpipe.

G. E. BAKER,

Secretary to the Delegacy.

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OXFORD LOCAL EXAMINATIONS, 1885.

EXAMINERS.

Revising.	Rev. J. R. Magrath, D.D., Provost of Queen's College. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. W. W. Jackson, M.A., Fellow and Tutor of Exeter College. E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Religious Knowledge.	Rev. E. Barber, M.A., Magdalen College. Rev. R. H. Morris, D.D., Jesus College. Rev. R. W. M. Pope, B.D., Lecturer of Worcester College. J. H. Maude, Esq., M.A., Lecturer and late Fellow of Hertford College.
Preliminary Subjects (except Arithmetic), and English.	Rev. T. Williams, M.A., late Fellow of Jesus College. Rev. H. E. Tweed, M.A., late Fellow of Oriel College. G. E. Thorley, Esq., M.A., Warden of Wadham College. W. C. Sidgwick, Esq., M.A., Oriel College. Rev. C. H. O. Daniel, M.A., Fellow of Worcester College. Rev. G. F. Lovell, B.D., Vice-Principal of St. Edmund Hall. C. N. Jackson, Esq., M.A., Fellow and Tutor of Hertford College. F. S. Pulling, Esq., M.A., Exeter College. A. Hassall, Esq., M.A., Student and Tutor of Christ Church. T. F. Tout, Esq., M.A., Fellow of Pembroke College. C. R. L. Fletcher, Esq., M.A., Fellow of All Souls College, Lecturer of Keble College.
Latin and Greek.	Rev. F. R. Pentreath, D.D., Worcester College. Rev. W. H. Hughes, M.A., Fellow and Tutor of Jesus College. Rev. G. W. Gent, M.A., University College, Tutor of Keble College. A. D. Godley, Esq., M.A., Fellow and Tutor of Magdalen College.
French.	R. A. Ploetz, Esq., M.A., Magdalen College. L. M. Moriarty, Esq., B.A., Magdalen College. Rev. A. C. Clapin, M.A., St. John's College, Cambridge. Mons. A. Manier.
German.	E. A. Sonnenschein, Esq., M.A., University College.
Arithmetic and Mathematics.	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. D. Thomas, M.A., late Fellow of Trinity College. E. B. Elliott, Esq., M.A., Fellow and Tutor of Queen's College. Rev. J. H. Kirkby, M.A., University College. H. T. Gerrans, Esq., M.A., Fellow and Lecturer of Worcester Coll.
Physics.	W. H. Heaton, Esq., M.A., Brasenose College.
Chemistry.	J. Watts, Esq., M.A., Balliol College, Lecturer of Merton College.
Botany.	B. Balfour, Esq., M.A., Fellow of Magdalen College, Sherardian Professor of Botany.
Zoology.	F. A. Dixey, Esq., M.A., Wadham College.
Geology and Mineralogy.	E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Drawing.	Rev. R. St. J. Tyrrwhitt, M.A., late Student of Christ Church.
Music.	J. V. Roberts, Esq., D. Mus., Magdalen College.

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SUPERINTENDING EXAMINERS AT THE LOCAL CENTRES.

Bath	Rev. F. Harrison, M.A., late Fellow of Oriel College.
Bedford High School	Rev. J. Copner, M.A., St. Mary Hall.
Bedford French Protestant College.	W. L. Courtney, Esq., M.A., Fellow and Tutor of New College.
Berkhamsted	Rev. W. Tuckwell, M.A., late Fellow of New College.
Birmingham	Rev. R. E. Williams, M.A., late Fellow of Jesus College.
„ Five Ways	Rev. F. H. Curgenven, M.A., late Fellow of Corpus Christi College.
Boston	Rev. A. R. Maddison, M.A., Merton College.
Brighton	E. M. Miller, Esq., M.A., Fellow of Magdalen College.
Bristol	Rev. H. L. Thompson, M.A., late Senior Student and Tutor of Ch. Ch.
Bristol Grammar School	Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College.
Cheltenham	Rev. P. G. Medd, M.A., late Fellow and Tutor of University College. Rev. E. Worsley, M.A., late Fellow of Magdalen College.
Coventry	Rev. H. B. George, M.A., Fellow and Tutor of New College.
Crosby	Rev. W. Tuckwell, M.A., late Fellow of New College.
Crystal Palace	Rev. W. C. Stapylton, M.A., late Fellow of Merton College.
Downside	Rev. W. E. Daniel, M.A., Worcester College.
Hilton, Natal	Rev. E. T. Burges, M.A., St. John's College Cambridge.
Kingsbridge	Rev. E. Harris, M.A., Lincoln College.
Leicester	Rev. W. Yates, late Fellow and Tutor of Brasenose College.
Lincoln	Rev. J. M. Barrett, M.A., Pembroke College.
Liverpool	R. T. Tidswell, Esq., M.A., Worcester College. J. Williams, Esq., M.A., B.C.L., Lincoln College.
Llandudno	Rev. H. B. Blogg, M.A., Christ Church.
London	Rev. E. Hill, M.A., late Student and Lecturer of Christ Church. Rev. M. S. A. Walrond, M.A., Balliol College. Rev. F. R. Ellis, M.A., Trinity College.
Lytham	Rev. C. C. Atkinson, M.A., Keble College.
Manchester	Rev. W. E. Buckley, M.A., late Fellow of Brasenose College. Rev. J. D. Kelly, M.A., Wadham College.
Milton Mount	Rev. J. Bond, M.A., St. John's College.
Nottingham	R. L. Abbott, Esq., M.A., Tutor of Non-Collegiate Students.
Oswestry	Rev. A. Short, M.A., late Fellow of New College.
Oxford	Rev. S. C. F. Angel-Smith, M.A., Christ Church.
Penrith	Rev. G. E. Hasell, M.A., Queen's College.
Peterborough	H. W. Just, Esq., M.A., Corpus Christi College.
Portsmouth	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. G. W. Jeudwine, M.A., late Fellow of Queen's College.
Preston	Rev. C. P. Roberts, M.A., Trinity College. C. E. Bickmore, Esq., M.A., Fellow and late Tutor of New College.
Ramsgate	Rev. J. W. Nutt, M.A., late Fellow of All Souls College.
Reigate	Rev. A. Isham, M.A., late Fellow of All Souls College.
Rotherham	Rev. W. G. Cole, M.A., late Fellow of Trinity College.
Rugby	Rev. J. W. Caldicott, D.D., Jesus College.
St. Helens	A. Hassall, Esq., M.A., Student and Tutor of Christ Church.
Salisbury	Rev. D. Macleane, M.A., Fellow and Lecturer of Pembroke College.
Southampton	Rev. C. Eddy, M.A., late Fellow of Queen's College.
Southwark	S. H. Leonard, Esq., M.A., Lincoln College.

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STREATHAM HILL	Rev. J. Troutbeck, M.A., University College.
STROUD	Rev. T. Williams, M.A., late Fellow of Jesus College.
SWANSEA	Rev. G. H. Jenner, M.A., Pembroke College.
SWANSEA GRAMMAR SCHOOL	Rev. R. Broughton, M.A., late Fellow of Hertford College.
TAUNTON.....	Rev. H. F. Seymour, M.A., late Fellow of All Souls College.
THAME.....	Rev. D. Thomas, M.A., late Fellow of Trinity College.
TRURO.....	Rev. W. P. Chappel, M.A., Worcester College.
WARRINGTON	C. H. Sampson, Esq., M.A., Brasenose College.
WARWICK	Rev. A. C. Irvine, M.A., Balliol College.
WATFORD	Rev. F. B. Lipscomb, M.A., St. Edmund Hall.

Oxford, April 28, 1885.

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EXAMINATION PAPERS.

JUNIOR CANDIDATES.

*I. 1. Reading aloud.

A passage from some English Author.

(The Book selected was Robinson Crusoe).

WEDNESDAY, JUNE 10, from 4 to 4.30 P.M.

I. 2. Passage for Dictation.

[The Examiner is requested,

First, to read the following passage to the Candidates in order that they may catch its general purport;

Then, to dictate it very slowly, giving them ample time to write it down, and telling them where the full stops occur;

Lastly, to read it over a third time, that they may have an opportunity of correcting and punctuating what they have written.]

The line of either continent is broken by innumerable bays and creeks, and bristles with projecting headlands: in such regions the science of navigation requires the aid of minute local knowledge. The interior of the country is also generally difficult of access; precipitous mountains alternate with deep valleys: here and there only a broader expanse is opened by a river of more than usual volume.

Its population congregated, even in the best times, in spots of isolated fertility, large tracts of impassable mountains intervening between them.

* The numbers prefixed to the several Papers correspond with the numbers prefixed to the Subjects in the REGULATIONS.

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TUESDAY, JUNE 9, from 11 A.M. to 1 P.M.

I. 3. English Grammar and Composition.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation, and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Parse each word in the following passage:—

So I am quite content to tell my simple story, without trying to make things seem better than they were; dreading nothing indeed but falsity.

2. Explain from etymology or otherwise the meaning of the grammatical terms—'parsing,' 'finite,' 'inflexion,' 'case,' 'tense,' 'oblique,' 'conjugation,'—as applied to the things they severally designate.

3. Paraphrase:—

I am in blood
Stept in so far, that, should I wade no more,
Returning were as tedious as go o'er.
Strange things I have in head, that will to hand.

4. Enumerate and distinguish the several classes of Pronouns; and specify any which appear under more than one class, or as other parts of speech.

5. Why are 'shall' and 'will' classed as anomalous Verbs? State all their peculiarities.

6. To what parts of speech would you refer the words—next, no, the, together, past, else, but, ere?

7. Write a short Essay on *one only* of the following subjects:—

(*a*) The influence of Geographical position on National Character.

(*b*) A short account of *one* of the three following characters: Julius Cæsar, Mahomet, Alfred the Great.

(*c*) Are second thoughts always best?

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TUESDAY, JUNE 9, from 9 to 11 A.M.

I. 4. Arithmetic.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper.

No credit will be given for any answer, the full working of which is not shewn.]

1. Multiply five thousand and four by six thousand four hundred and eighty-nine; express the result in words, and divide it by 556.

2. Divide 823479885 by 9897, and subtract 7 bush. 3 pks. 1 gal. 2 qts. 1 pt. from 8 bush. 2 pks. and 1 qt.

3. Reduce 52 tons 6 cwt. 2 qrs. 17 lbs. 15 drams to drams.

4. Express in their simplest forms:—

$$(1)\quad \frac{(\frac{7}{8} \div 2\frac{1}{3}) \times (\frac{1}{4} \text{ of } 6\frac{2}{3})}{2\frac{1}{4} + 3\frac{1}{2} - 5\frac{7}{8} + \frac{23}{24}};$$

$$(2)\quad \frac{\cdot 23 - \cdot 023}{\cdot 0023 \div 23000}.$$

5. Extract the square root of 281961.

6. *A* owns $\frac{31}{64}$ of a vessel. At the end of a year the total profits are 4523*l.* 14*s.* 8*d.* What is *A*'s share?

7 A man, holding 1625*l.* stock in the 4 per cents., sells out at $81\frac{3}{8}$, and lends the proceeds at 5 per cent. Find the alteration in his income.

8. A room is 18 ft. 4 in. long, 13 ft. $6\frac{1}{2}$ in. broad and $10\frac{1}{2}$ ft. high. Find the cost of papering it with paper $\frac{3}{4}$ yd. wide, at 3*d.* per yard.

9. A man can mow 264 sq. yds. of grass in an hour. How long will he take to mow 1 acre, 3 roods, 34 perches, $5\frac{1}{2}$ yards?

10. At an election there were two candidates, and 4501 people voted. One candidate was returned by a majority of 397 votes. How many voted for him?

11. Obtain the simple interest on 2500*l.* for $5\frac{1}{2}$ years at $4\frac{1}{2}$ per cent.; and find what sum must be lent for $4\frac{1}{2}$ years 4 per cent. to produce 618*l.* 15*s.* interest.

12. A man buys eggs at the rate of 10 for a shilling, and sells 32 for 4 shillings. What is his gain per cent.?

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MONDAY, JUNE 8, from 2 to 3 P.M.

I (*a*). Ruth and Samuel I.

1. 'There is none to redeem it beside thee; and I am after thee.' What custom is here alluded to?

2. 'Is Saul also among the Prophets?' Describe the occasions on which this proverb was spoken.

3. Give a brief account of the last meeting of Jonathan and David.

4. What incidents occurred at Gilgal, Ramah, Ephes-dammim, Ebenezer? Describe their geographical position.

5. In what connexion were the following words spoken?—

(*a*) 'God forbid that I should sin against the Lord in ceasing to pray for you.'

(*b*) 'Surely the bitterness of death is past.'

(*c*) 'Wickedness proceedeth from the wicked, but mine hand shall not be upon thee.'

6. Give a summary of the events in the latter part of Saul's reign after his rejection by God from the Kingdom.

MONDAY, JUNE 8, from 3 to 4 P.M.

I. (*b*) The Gospel according to St. Luke.

1. Describe the raising of Jairus' daughter as recorded in this Gospel.

2. Explain, and give the context of the following passages:—

(*a*) Depart from me; for I am a sinful man, O Lord.

(*b*) Certainly this was a righteous man.

(*c*) I have no room where to bestow my fruits.

3. Give a short description of the teaching of St. John the Baptist. In what terms does our Lord refer to him?

4. Give some account of our Lord's discourse in the synagogue at Nazareth.

5. Write out (*a*) a history of St. Peter's denials, (*b*) the parable of the Pharisee and the Publican.

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6. Translate and explain:—

(*a*) Ἦν δὲ ἐκεῖ ἀγέλη χοίρων ἱκανῶν βοσκομένων ἐν τῷ ὄρει· καὶ παρεκάλουν αὐτὸν ἵνα ἐπιτρέψῃ αὐτοῖς εἰς ἐκείνους εἰσελθεῖν. καὶ ἐπέτρεψεν αὐτοῖς.

(*b*) Καὶ καθελὼν αὐτὸ ἐνετύλιξεν αὐτὸ σινδόνι, καὶ ἔθηκεν αὐτὸ ἐν μνήματι λαξευτῷ, οὗ οὐκ ἦν οὐδέπω οὐδεὶς κείμενος. καὶ ἡμέρα ἦν παρασκευή, καὶ σάββατον ἐπέφωσκε.

(*c*) Ζεύγη βοῶν ἠγόρασα πέντε.

MONDAY, JUNE 8, from 4 to 5 P.M.

I (*c*). Acts xiii—xxviii.

1. Give an account of the Council of Jerusalem, and the circumstances which gave rise to it.

2. What do you know about the following:—Lydia, Apollos, Demetrius, Philippi and Melita?

3. Give the context, and simple explanation, of the following passages:—

(*a*) 'As I passed by and beheld your devotions.'

(*b*) 'These hands have ministered unto my necessities.'

(*c*) 'With a great sum obtained I this freedom.'

(*d*) 'For the hope of Israel I am bound with this chain.'

4. Describe S. Paul's Third Missionary Journey. Who were his companions?

5. Give a brief narration of the circumstances which led to S. Paul's seizure at Jerusalem and subsequent imprisonment.

6. 'Hearing ye shall hear and shall not understand; and seeing ye shall see, and not perceive.' Where do these words occur in the Old Testament, and by whom and for what purpose are they quoted in the Acts and elsewhere in the New Testament?

7. Translate:—

Τοῦτο δὲ ἐγένετο ἐπὶ ἔτη δύο, ὥστε πάντας τοὺς κατοικοῦντας τὴν Ἀσίαν ἀκοῦσαι τὸν λόγον τοῦ Κυρίου Ἰησοῦ, Ἰουδαίους τε καὶ Ἕλληνας. Δυνάμεις τε οὐ τὰς τυχούσας ἐποίει ὁ Θεὸς διὰ τῶν χειρῶν Παύλου, ὥστε καὶ ἐπὶ τοὺς ἀσθενοῦντας ἐπιφέρεσθαι ἀπὸ τοῦ χρωτὸς αὐτοῦ σουδάρια ἢ σιμικίνθια, καὶ ἀπαλλάσσεσθαι ἀπ' αὐτῶν τὰς νόσους, τά τε πνεύματα τὰ πονηρὰ ἐξέρχεσθαι ἀπ' αὐτῶν.

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MONDAY, JUNE 8, from 6 to 7 P.M.

1 (*d*). Catechism.

1. State the meaning of the following words and phrases:—a member of Christ, vanity, hell, sureties, the elect people of God.

2. In what terms are the promises made in your baptism explained in the Catechism?

3. How old is the Apostles' Creed? Does it contain 'all the Articles of the Christian Faith?'

4. 'Thy kingdom come.' What do we pray for in this petition?

5. Explain the Third Commandment, in the words of the Catechism, and in your own words.

6. 'The continual remembrance of the sacrifice of the death of Christ.'

'The strengthening and refreshing of our souls by the Body and Blood of Christ.'

Shew from Scripture that both these views of the Lord's Supper are true.

WEDNESDAY, JUNE 10, from 2 to 4.30 P.M.

2 (*a*). Greek and Roman History.

[N.B. Candidates are expected to answer some questions from each division of this Paper.]

Greek History.

1. Give an account of Aristides, Gelon, Mardonius, Miltiades, Pausanias.

2. Which of the Greek states formed the confederacy against the Persians? How do you explain the conduct of those Greeks who refused to join?

3. Give an account of the battles of Thermopylae and Salamis, with a geographical description of each place.

4. What were the consequences of the Persian wars in Greece?

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5. What were the causes of the greatness of Athens in the middle of the 5th century B.C.? In what did this greatness consist?

6. Give the critical events of the Peloponnesian war, and account for the final defeat of Athens.

Roman History.

7. Which of the Italian nations offered the most determined resistance to the Roman conquest of Italy? Give the decisive events in this conquest.

8. What were patricians and plebeians? Give some account of the principal causes of antagonism between them, and of the way in which they were removed.

9. What were the powers and position of the Roman Consuls? Explain the occasional appointment of a dictator.

10. Describe shortly the chief naval events of the First Punic War, and shew the difficulties with which the Romans had to contend in naval warfare.

11. Give an account of Hamilcar, Regulus, the Mamertines; and describe the geographical position of Agrigentum, Clypea, Eryx, Syracuse.

12. What do you consider to have been the cause of the defeat of Carthage in the First Punic War?

WEDNESDAY, JUNE 10, from 2 to 4 P.M.

2 (*b*). English History.

[N.B. Candidates are expected to answer some questions from each division of this Paper.]

1. What were the chief changes introduced into England by the Norman Conquest?

2. Give an account of *either*—

(*a*) The passing of Magna Carta.

(*b*) The origin of the Wars of the Roses.

(*c*) The origin of the Seven Years' War.

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3. Enumerate the most memorable of the battles fought by England on the continent between the years 1500–1815, with dates.

4. What were the principal laws in favour of liberty passed in the reign of William III?

5. What was the respective influence on the progress of the Reformation of the reigns of Henry VIII and Edward VI?

6. Whom do you consider to have been the greatest writer of English prose? Give a life of him, with full list of his works.

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7. Give an account of the interference of England in the continental struggle during Queen Mary's reign.

8. Enumerate the statutes passed at the opening of Elizabeth's reign, respecting religious matters, and compare them with those of Henry VIII and Charles II.

9. For what reason is the year 1587 to be regarded as important in the struggle between England and Spain?

10. Who were Elizabeth's chief advisers during the period 1558–1588, and what general line of foreign policy did they recommend?

TUESDAY, JUNE 9, from 5.30 to 7.30 P.M.

2 (*c*). Shakspeare's Tempest.

1. Sketch the outlines of the plot of this play, naming its principal characters.

2. Quote the lines which immediately follow the words

'Are melted into air, into thin air.'

3. Give the meaning, and where possible the derivation of;—sea-mells, barnacles, dowle, tilth, foisons, yarely, gaberdine, bombard, stover, teen, feater.

4. Select any instances in The Tempest which exemplify Shakspeare's (*a*) Wit and Humour, (*b*) Knowledge of 'Classics.'

5. Describe carefully the character of Prospero.

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6. Explain the following with reference to their context:—

(*a*) Some oracle
Must rectify our knowledge.

(*b*) What a pied ninny's this.

(*c*) I 'll resolve you,
Which to you shall seem probable, of every
These happen'd accidents.

(*d*) Misery acquaints a man with strange bedfellows.

(*e*) Which end of the beam should bow?

(*f*) Which now we find
Each putter out of five for one will bring us
Good warrant of.

TUESDAY, JUNE 9, from 2 to 4 P.M.

2 (*d*). Geography.

1. In the accompanying map of South America

(1) Trace the boundaries of the chief states;

(2) Trace the course severally of the Marañon, La Plata, Orinoco, Tocantins, Paranahyba with affluents;

(3) Insert Paramaribo, Caraccas, Quito, Bogota, Lima, Truxillo, Guatemala, Santarem, Santa Fe, Buenos Ayres, and Monte Video;

and in every case insert the names.

2. Describe the situation of Aberdeen, Dundee, The Minch, Pentland Firth, Mull, Mainland and Arran, and give the course of the Forth, the Tay, the Dee, and the Spey. Illustrate your answers by sketch maps.

3. Give the chief European Rivers draining into the Baltic Sea, the Black Sea, the Mediterranean, and the Atlantic.

4. Explain the terms 'the Doldrums,' diurnal motion, zenith, nadir, igneous rocks, antarctic current, trade winds.

5. Describe the general character and physical features of Italy with a sketch map if you can give one.

6. Name the chief German States and their capitals. Tell what you know of the relation of these States to the Empire.

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7. Draw a sketch map of the Danube and its feeders.

8. Give some account of the chief English imports, specifying the country which supplies each, and the route by which it is brought.

9. Give the six northern counties in England with their chief towns.

WEDNESDAY, JUNE 10, from 9 to 10.30 A.M.

3. Latin.

[A Second Latin Paper will be given to you at 10.30 A.M.]

I.

CAESAR, *Bell. Gall.* I, II; VIRGIL, *Aen.* XII.

[Candidates may not take both Caesar and Virgil.]

For all Candidates.

1. Translate into English:—

Mittitur a Mithridate nuntius Caesari, qui rem gestam perferret. Cognoscit ex suis eadem haec accidisse rex. Ita paene sub idem tempus et rex ad opprimendum Mithridatem proficiscitur, et Caesar ad recipiendum. Celeriore fluminis Nili navigatione rex est usus in quo magnam et paratam classem habebat. Caesar eodem itinere uti noluit, ne navibus in flumine dimicaret, sed circumvectus est eo mari, quod Africae partis esse dicitur, sicuti supra demonstravimus; prius tamen regiis copiis occurrit, quam is Mithridatem adgredi posset, eumque ad se victorem incolumi exercitu recepit.

For those who offer Caesar.

2. Translate into English:—

(*a*) Ea re impetrata sese omnes flentes Caesari ad pedes proiecerunt: Non minus se id contendere et laborare, ne ea, quae dixissent, enuntiarentur, quam uti ea, quae vellent.

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impetrarent, propterea quod, si enuntiatum esset, summum in cruciatum se venturos viderent. Locutus est pro his Divitiacus Aeduus: Galliae totius factiones esse duas: harum alterius principatum tenere Aeduos, alterius Arvernos. Hi cum tantopere de potentatu inter se multos annos contenderent, factum esse uti ab Arvernis Sequanisque Germani mercede arcesserentur.

(*b*) Instructo exercitu, magis ut loci natura deiectusque collis et necessitas temporis, quam ut rei militaris ratio atque ordo postulabat, cum diversis legionibus aliae alia in parte hostibus resisterent, sepibusque densissimis, ut ante demonstravimus, interiectis prospectus impediretur, neque certa subsidia collocari neque, quid in quaque parte opus esset, provideri neque ab uno omnia imperia administrari poterant. Itaque in tanta rerum iniquitate fortunae quoque eventus varii sequebantur.

3. Give the meaning of—alarii, carrus, decurio, circinus, sementis, sarcinae, calo, aestuarium, portorium, funditor.

For those who offer Virgil.

4. Translate into English :—

(*a*) Hasta volans, ut forte novem pulcherrima fratrum
Corpora constiterant contra, quos fida crearat
Una tot Arcadio coniux Tyrrhena Gylippo,
Horum unum ad medium, teritur qua sutilis alvo
Balteus, et laterum iuncturas fibula mordet,
Egregium forma iuvenem et fulgentibus armis,
Transadigit costas, fulvaque effundit arena.
At fratres, animosa phalanx accensaque luctu,
Pars gladios stringunt manibus, pars missile ferrum
Corripiunt, caecique ruunt.

(*b*) Aestuat ingens
Uno in corde pudor, mixtoque insania luctu,
Et Furiis agitatus amor, et conscia virtus.
Ut primum discussae umbrae, et lux reddita menti,
Ardentes oculorum orbes ad moenia torsit
Turbidus, eque rotis magnam respexit ad urbem.
Ecce autem, flammis inter tabulata volutus
Ad coelum undabat vertex, turrimque tenebat;
Turrim, compactis trabibus quam eduxerat ipse,
Subdideratque rotas, pontesque instraverat altos.

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5. Translate, and give short explanations of:—

(*a*) Dant fruges manibus salsas.

(*b*) Fugit ipse Latinus
Pulsatos referens infecto foedore divos.

(*c*) Iupiter ipse duas aequato examine lances
Sustinet.

(*d*) Dixit, opemque dei non cassa in vota vocavit.

(*e*) Limes agro positus, litem ut discerneret arvis.

WEDNESDAY, JUNE 10, from 10.30 A.M. to 12.

3. Latin.

II.

1. Translate into Latin:—

Periander drove him angrily from the palace; and when he found out what was in Lycophron's mind, he forbade the citizens to take him into their houses, or to speak to him, or to give him food. For days Lycophron wandered silent and starving through the public places; then when Periander thought his spirit must be broken, he approached him, and bade him come back to the palace. But Lycophron only answered scornfully that Periander had broken his own law by speaking to him.

2. Translate into Latin:—

(*a*) He said that he had not promised to come to Rome.

(*b*) Having done this, Cæsar asked his soldiers to return thanks to the king.

(*c*) He cannot be prevented from injuring himself and his friends.

(*d*) On the 5th of March in that year he distributed five sesterces to each of the soldiers.

3. Parse—orsus, reddiderit, ferimur, vires, misereri, immani, vestigia.

4. Give the perf. pass. participles (nom. sing. only) of figo, effero, quatio, gero, torqueo; the genders and genitives of virus, carcer, praedo, pignus, and ver; the comparatives of acer, beneficus, dubius, and multus. Give the meanings.

5. What is meant by the sequence of tenses? Give examples introducing each tense of the subjunctive mood.

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SATURDAY, JUNE 13, from 9 to 10.30 A.M.

4. Greek.

[A Second Greek Paper will be given to you at 10.30 A.M.]

I.

XENOPHON, *Anab.* ii. HOMER, *Od.* ix.

[N. B. Candidates may not take both Xenophon and Homer.]

For all Candidates.

1. Translate :—

Καὶ μὴν καὶ ἄλλο θαῦμα ἐν τοῖς βασιλείοις ἐθεασάμην. κάτοπτρον μέγιστον κεῖται ὑπὲρ φρέατος οὐ πάνυ βαθέος. ἂν μὲν οὖν εἰς τὸ φρέαρ καταβῇ τις, ἀκούει πάντων τῶν παρ' ἡμῖν ἐν τῇ γῇ λεγομένων· ἐὰν δὲ εἰς τὸ κάτοπτρον ἀποβλέψῃ, πάσας μὲν πόλεις πάντα δὲ ἔθνη ὁρᾷ, ὥσπερ ἐφεστὼς ἑκάστοις· τότε καὶ τοὺς οἰκείους ἐγὼ ἐθεασάμην καὶ πᾶσαν τὴν πατρίδα· εἰ δὲ κἀκεῖνοί με ἑώρων οὐκ ἔχω τὸ ἀσφαλὲς εἰπεῖν. ὅστις δὲ μὴ πιστεύει ταῦτα οὕτως ἔχειν, ἄν ποτε καὶ αὐτὸς ἐκεῖσε ἀφίκηται, εἴσεται ὡς ἀληθῆ λέγω.

For those who offer Xenophon.

2. Translate :—

(*a*) Ἦν δὲ αὕτη ἡ στρατηγία οὐδὲν ἄλλο δυναμένη ἢ ἀποδρᾶναι ἢ φυγεῖν· ἡ δὲ τύχη ἐστρατήγησε κάλλιον. ἐπεὶ γὰρ ἡμέρα ἐγένετο, ἐπορεύοντο ἐν δεξιᾷ ἔχοντες τὸν ἥλιον, λογιζόμενοι ἥξειν ἅμα ἡλίῳ δύνοντι εἰς κώμας τῆς Βαβυλωνίας χώρας· καὶ τοῦτο μὲν οὐκ ἐψεύσθησαν. ἔτι δὲ ἀμφὶ δείλην ἔδοξαν πολεμίους ὁρᾶν ἱππέας· καὶ τῶν τε Ἑλλήνων οἱ μὴ ἔτυχον ἐν ταῖς τάξεσιν ὄντες εἰς τὰς τάξεις ἔθεον, καὶ Ἀριαῖος, ἐτύγχανε γὰρ ἐφ' ἁμάξης πορευόμενος διότι ἐτέτρωτο, καταβὰς ἐθωρακίζετο καὶ οἱ σὺν αὐτῷ.

(*b*) Καὶ ἀρχικὸς δ' ἐλέγετο εἶναι ὡς δυνατὸν ἐκ τοῦ τοιούτου τρόπου οἷον κἀκεῖνος εἶχεν. ἱκανὸς μὲν γὰρ ὥς τις καὶ ἄλλος φροντίζειν ἦν ὅπως ἔχοι ἡ στρατιὰ αὐτῷ τὰ ἐπιτήδεια καὶ παρασκευάζειν ταῦτα, ἱκανὸς δὲ καὶ ἐμποιῆσαι τοῖς παροῦσιν ὡς πειστέον εἴη Κλεάρχῳ. τοῦτο δ' ἐποίει ἐκ τοῦ χαλεπὸς εἶναι· καὶ γὰρ ὁρᾶν στυγνὸς ἦν καὶ τῇ φωνῇ τραχύς, ἐκόλαζέ τε ἀεὶ ἰσχυρῶς, καὶ ὀργῇ ἐνίοτε, ὡς καὶ αὐτῷ μεταμέλειν ἔσθ' ὅτε. καὶ γνώμῃ δ' ἐκόλαζεν.

3. Translate, explaining the underlined words :—

(*a*) Ταύτας διάρπασαι τοῖς Ἕλλησιν ἐπέτρεψε <u>πλήν ἀνδραπόδων</u>.

(*b*) Μεταγνόντες πως <u>οἱ Ἔφοροι</u> . . . ἀποστρέφειν αὐτὸν ἐπειρῶντο.

(*c*) <u>Ἄλλο τι ἂν ἢ</u> τὸν εὐεργέτην κατακτείναντες πρὸς βασιλέα τὸν μέγιστον <u>ἔφεδρον</u> ἀγωνιζοίμεθα.

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For those who offer Homer.

4. Translate :—

(*a*) Ἐν μὲν γὰρ λειμῶνες ἁλὸς πολιοῖο παρ' ὄχθας
ὑδρηλοὶ μαλακοί· μάλα κ' ἄφθιτοι ἄμπελοι εἶεν.
ἐν δ' ἄροσις λείη· μάλα κεν βαθὺ λήϊον αἰεὶ
εἰς ὥρας ἀμῷεν, ἐπεὶ μάλα πῖαρ ὑπ' οὖδας.
ἐν δὲ λιμὴν εὔορμος, ἵν' οὐ χρεὼ πείσματός ἐστιν,
οὔτ' εὐνὰς βαλέειν οὔτε πρυμνήσι' ἀνάψαι,
ἀλλ' ἐπικέλσαντας μεῖναι χρόνον, εἰσόκε ναυτέων
θυμὸς ἐποτρύνῃ καὶ ἐπιπνεύσωσιν ἀῆται.

(*b*) Κύκλωπος γὰρ ἔκειτο μέγα ῥόπαλον παρὰ σηκῷ,
χλωρὸν ἐλαΐνεον· τὸ μὲν ἔκταμεν, ὄφρα φοροίη
αὐανθέν. τὸ μὲν ἄμμες ἐΐσκομεν εἰσορόωντες
ὅσσον θ' ἱστὸν νηὸς ἐεικοσόροιο μελαίνης,
φορτίδος εὐρείης' ἥτ' ἐκπεράᾳ μέγα λαῖτμα·
τόσσον ἔην μῆκος τόσσον πάχος εἰσοράασθαι.
τοῦ μὲν ὅσον τ' ὄργυιαν ἐγὼν ἀπέκοψα παραστὰς,
καὶ παρέθηχ' ἑτάροισιν, ἀποξῦσαι δ' ἐκέλευσα.

(*c*) Ὣς ἔφατ', αὐτὰρ ἐγώ μιν ἀμειβόμενος προσέειπον
"αἰ γὰρ δὴ ψυχῆς τε καὶ αἰῶνός σε δυναίμην
εὖνιν ποιήσας πέμψαι δόμον Ἄϊδος εἴσω,
ὡς οὐκ ὀφθαλμόν γ' ἰήσεται οὐδ' ἐνοσίχθων."

5. Translate, and comment on :—

(*a*) Ἡμῖν δ' αὖτε κατεκλάσθη φίλον ἦτορ
δεισάντων φθόγγον.

(*b*) Ἀλλ' ὅτε τόσσον ἀπῆν ὅσσον τε γέγωνε βοήσας.

6. What is the meaning and derivation of—διερός, εἰλίποδες, κήλεος, ἀπορρώξ?

SATURDAY, JUNE 13, from 10.30 A.M. to 12.

4. Greek.

II.

1. Translate into Greek :—

(*a*) Do not go away before you have done this.

(*b*) I asked him whether his friend was in the town.

(*c*) He said he deserved praise for not escaping from the house.

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2. Write down the first twelve numerals, cardinal and ordinal, in Greek.

3. Compare—*μέλας, κακῶς, ἴσος, χαρίεις, πτωχός.* Give the dat. sing. and acc. pl. of—*ἰχθύς, ὕβρις, οἰκέτης, δόρυ, ὕδωρ.*

4. Write down the 1st pers. singular of the 2nd aorist, future, and perfect indicative and optative active of—*ἐσθίω, βαίνω, ἁλίσκομαι, τέμνω, ἐπιτίθημι.* Distinguish between *ἕξω* and *ἕξω, οἴκαδε* and *οἴκοθεν, χράω* and *χράομαι, λανθάνω* and *λανθάνομαι, ἄρα* and *ἆρα, ὁ δεινὸς* and *ὁ δεῖνα.*

5. If you offer Homer:—

Parse—*ἐγχείῃ, ἀῦσαι, ἀμῷεν, ἐτέτυκτο, πεπάλασθαι, ἐλυσθείς, ἀμφιφορεῦσιν, εἰσοιχνεῦσι, θέμισταις, ῥηγμῖνι.*

If you offer Xenophon:—

Parse—*δεδήλωται, ἀποκεκριμένοι, ἀποσπασθῶμεν, ἀποδόξῃ, ἁλισθῇ, πεφυλαγμένως, παρασχεῖν, κατακαύσαντες, ἐφάνη, ἐπορεύθησαν.*

THURSDAY, JUNE 11, from 9 to 10.15 A.M.

5. French.

[A second French paper will be given to you at 10.15 A.M.]

I.

1. Translate into English:—

C'était un chien, mais un chien comme je n'en ai plus connu; un chien d'esprit et de cœur digne en cela de rendre honteux bien des hommes. Il était le compagnon et l'ami d'Isidore Lestoure, un vieux joueur de clarinette qui, après bien des années d'études continuelles, était arrivé à exécuter (exécuter rend bien l'impression de ceux qui l'ont entendu) la fameuse romance de la *Périchole*:

'O mon cher amant je te jure . . .

O mon brave chien, dis, ne regrettes-tu pas Isidore à présent; pourquoi, vieil ami du vieux bonhomme, me laisses-tu lire si souvent au fond de tes grands yeux mélancoliques comme les regrets d'un temps inoublié? Tu ne souffres plus cependant comme autrefois et la pâtée t'est tous les jours servie; va, pauvre irrégulier, ce n'est pas un sort si enviable que cette vie si hasardeuse que tu. . . . Ici Gueule-Rose a dressé sa tête intelligente et m'a posé sa patte crottée sur les genoux; ce

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chien a des yeux si expressifs et qui disent tant ce qu'ils veulent dire, que je me suis tout à coup senti très ému. Lecteur, ne souriez point, vous ne connaissez pas Gueule-Rose.

2. Translate into English :—

(*a*) Une autre aurait paru effroyable en l'état où elle était ; car elle n'avait pour habillement qu'une méchante petite jupe, avec des brassières de nuit qui étaient de simple futaine ; et sa coiffure était une cornette jaune, retroussée au haut de sa tête, qui laissait tomber en désordre ses cheveux sur ses épaules ; et cependant, faite comme cela, elle brillait de mille attraits, et ce n'était qu'agréments et que charmes que toute sa personne.

(*b*) Mais pour plaider il vous faudra de l'argent. Il vous en faudra pour l'exploit ; il vous en faudra pour le contrôle ; il vous en faudra pour la procuration, pour la présentation, les conseils, productions, et journées du procureur. Il vous en faudra pour les consultations et plaidoiries des avocats, pour le droit de retirer le sac, et pour les grosses d'écritures.

3. Translate and explain, showing where you can the connection of the quotations with the play :—

(*a*) Je ne suis point personne à reculer lorsqu'on m'attaque d'amitié.

(*b*) Je te conjure au moins de ne point m'aller brouiller avec la justice.

(*c*) Peste soit du baragouineux !

(*d*) C'était moi, monsieur, qui faisais le loup-garou.

4. Explain the terms—chapitrer, fièvres quartaines, maraud fieffé, avanie.

THURSDAY, JUNE 11, from 10.15 A.M. to 12.

5. French.

II.

1. Turn into French :—

Do you like books of travels?

Yes, when I feel the author is truthful.

Of course ; otherwise they are only a source of error and disappointment.

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Lend me some that you like.
We read but do not keep them.
What do you do with them?
We return them to the library.

2. Give the plural of—corail, bal, caporal, neveu, réveille-matin, chien de chasse.

3. Give the feminine of—léger, douteux, sujet, vermeil, fou, ambassadeur, dur, ardu, crieur, vert, gros, grossier.

4. Turn into French:—

What is the day of the month?
His life was short.
Hers has been long.
Look at all those birds.
In what do you believe?
We know nothing about it.
This one (masculine) is too heavy.
Our deeds condemn or justify us.
What was there upstairs?
We were three hundred together.

5. Give the 3rd person singular, present indicative of—aller, envoyer, assaillir, dormir, ouvrir, mourir, venir, asseoir, mouvoir, valoir, vouloir, battre.

6. Give the French for—towards, at last, above, below, through, opposite.

7. Turn into French:—

Extreme cold is usually accompanied by cheerful and quiet weather, so that the magnificent city of St. Petersburg rarely appears to greater advantage than when the thermometer stands at thirty degrees below Reaumur's zero (thirty-five below Fahrenheit's), when the sun shines brilliantly in a clear sky, while the rays are reflected by millions of icy crystals. From houses and churches dense columns of smoke slowly ascend. The snow and ice in the streets and on the Neva are white and clean, and the whole city seems clothed in the garments of innocence. Water becomes ice almost in the act of being poured upon the ground.

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FRIDAY, JUNE 12, from 9 to 10.30 A.M.

6. German.

I.

A second German Paper will be given to you at 10.30 a.m.

1. Translate into English:—

Schwer aber war der Sieg errungen, denn von den Engländern wurden nicht weniger als neun höhere Officiere getödtet und eben so viele verwundet, während von gemeinen Soldaten fünfundsechzig getödtet und fünfundachtzig verwundet wurden. Dem General Stewart wurde ein Pferd unterm Leibe erschossen. Unter den gefallenen englischen Officieren befindet sich auch der durch seinen Ritt nach Khiwa und andere kühne Reiterstücke bekannte Oberst Burnaby, einer der populärsten Officiere der britischen Armee, dessen Muth und ausserordentliche Körperkraft sprichwörtlich war, der schon in allen Ländern gewesen war, und nun endlich in der Wüste, Schwert in Hand, einen echten Soldatentod fand. Der Sieg der Engländer wird von Lord Wolseley als ein vollständiger bezeichnet; der Feind floh in die Gebirge und die Engländer besetzten die Brunnen, wo sie sich wohl einige Tage von ihren Mühen ausruhen werden.

2. Translate into English:—

(*a*) Dem Grafen von Egmont zeigte er das Todesurtheil zuerst vor. 'Das ist fürwahr ein strenges Urtheil,' rief der Graf bleich und mit entsetzter Stimme. 'So schwer glaubte ich Seine Majestät nicht beleidigt zu haben, um eine solche Behandlung zu verdienen. *Muss* es aber sein, so unterwerfe ich mich diesem Schicksal mit Ergebung. Möge dieser Tod meine Sünden tilgen, und weder meiner Gattin noch meinen Kindern zum Nachtheile gereichen! Dieses wenigstens glaube ich für meine vergangenen Dienste erwarten zu können. Den Tod will ich mit gefasster Seele erleiden, weil es Gott und dem König so gefällt.'—Er drang hierauf in den Bischof, ihm ernstlich und aufrichtig zu sagen, ob keine Gnade zu hoffen sei? Als ihm mit Nein geantwortet wurde, beichtete er, und empfing das Sacrament von dem Priester, dem er die Messe mit sehr groszer Andacht nachsprach.

(*b*) Glückte dieser Versuch, so mochte der Herzog von Parma immerhin die Schelde vermittelst seiner Schiffbrücke hüten; man hatte sich einen neuen Strom aus dem Stegreif geschaffen, der im Nothfall die nämlichen Dienste leistete.

What is the origin of the phrase aus dem Stegreif?

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(*c*) Den Antwerpern galt es die letzte Vormauer ihrer Stadt, den Spaniern das ganze Glück ihres Unternehmens; beide Parteien fochten mit einem Muthe, den nur Verzweiflung einflöszen konnte.

Explain the use of the word gelten; and illustrate your answer by a few simple examples.

FRIDAY, JUNE 12, from 10.30 A.M. to 12.

6. German.

II.

1. Translate into German:—

(*a*) This is the first time that I have had tooth-ache.

(*b*) The king offered (*darbieten*) me his hand.

(*c*) He always weighed (*wiegen*) his words before he spoke.

(*d*) He is too poor to travel much in foreign countries.

2. Give the genitive singular of—Freundin, Tod, Wort, Laden, Denkmal, Käse, Monat, Kaufmann, Zug, Orgel.

3. Decline—der tapfere Held, etwas gute Milch, drei treue Freunde, ein Bedienter.

4. Decline—wer (interrogative), der (relative), Niemand.

5. Give the imperfect and past participle of the following verbs: vorziehen, schwimmen, ablegen, heben, lassen, wollen.

6. Analyse the following sentences into constituent clauses, stating the nature of each:—

(*a*) Ich bezweifle ob der Freund, der ihn schon einmal gerettet hat, heute zu Diensten stehen wird.

(*b*) Dass ich weiss wer Sie sind, ist wahr.

7. Translate into German:—

A fawn (*Rehkalb*) one day said to her mother, 'Mother, you are bigger than a dog, and swifter, and you have horns to defend yourself; why are you so afraid of the hounds?' She smiled and said, 'All this, my child, I know full well; but as soon as I hear the bark (*Bellen*) of a dog, my feet carry me off (*davontragen*) as fast as they can.'

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THURSDAY, JUNE 11, from 2 to 4.30 P.M.

7. Mathematics.

Algebra.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Multiply

$$x^3-ax^2+5a^2x-5a^3 \text{ by } x^3+ax^2-4a^2x-4a^3;$$

and evaluate the product when $x = 2a$.

2. Divide $(a^2-3a+2)(a^2+3a+2)$ by a^2+a-2.

3. Find the highest common divisor and the lowest common multiple of

(1) $25a^2x^3y^2(x-a)^3$ and $35a^3x^2y^3(x-a)^2$;

(2) x^3+8 and x^4+4x^2+16.

4. Simplify:

(1) $\dfrac{3a^2+4b^2}{2ab}-\dfrac{2a^2-ab}{a^2}+\dfrac{4b^2+3ab}{2b^2}$;

(2) $\dfrac{x^2+5x+6}{x-3}\times\dfrac{x^2-2x-3}{x+2}\div\dfrac{x^2+4x+3}{x-1}$;

(3) $\dfrac{1}{x-1+\frac{1}{x}}+\dfrac{1}{1+\frac{1}{x}}-\dfrac{2-\frac{1}{x}}{x^2+\frac{1}{x}}$.

5. Solve the equations:

(1) $\dfrac{x}{7}-\dfrac{x+1}{6(x-1)}=\dfrac{3x-7}{21}$;

(2) $9x-7y=48, \quad 7x-9y=16$.

6. A man has to walk 19 miles; this he does by first walking at his usual pace for $2\frac{1}{2}$ hours, and then half a mile per hour faster for 2 hours more: what is his usual pace?

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7. Solve the equations:

(1) $\frac{x}{3}-\frac{x}{5}-\frac{3}{x}=1\frac{4}{5}$;

(2) $\frac{3x}{x-5}-\frac{x+5}{2(x-1)}=9\frac{1}{2}$;

(3) $2x-y=3, \quad 2x^2-y^2=7$.

8. Two pieces of cloth cost 7*l.* 10*s.* and 9*l.* 10*s.* respectively; the latter is 10 yds. longer, and costs 3*d.* per yard less, than the other: find the length, and the cost per yard, of each piece.

9. Simplify:

(1) $2\sqrt{75}+\frac{1}{3}\sqrt{108}-\frac{12}{\sqrt{3}}$;

(2) $2\sqrt{3}\times\sqrt{\frac{5}{12}}\times(\sqrt{5}-2)(5+2\sqrt{5})$.

10. Prove the rule for finding the sum of n terms of a geometrical series, of which the first term is a, and the common ratio is r.

Sum the series:

(1) $7\frac{1}{2}+6+4\frac{1}{2}+$ &c. to 11 terms;

(2) $6\frac{3}{4}+2\frac{1}{4}+\frac{3}{4}+$ &c. to n terms and to infinity.

11. Prove that, if $a:b::c:d$,

(1) $a^2(a+b):b^2(a-b)::c^2(c+d):d^2(c-d)$;

(2) if also $m:n::p:q$,

$$ma:nc::ma+pb:nc+qd.$$

12. If $x:y::y:3$, and the arithmetical mean between x and 3 is $7\frac{1}{2}$; find x and y.

FRIDAY, JUNE 12, from 2 to 4.30 P.M.

7. Mathematics.

Euclid.

1. Define a plane superficies, an isosceles triangle, a circle, a gnomon.

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2. Draw a straight line perpendicular to a given straight line of unlimited length, from a given point without it.

3. Any two sides of a triangle are together greater than the third side.

4. The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects the parallelogram, that is, divides it into two equal parts.

5. If the square described on one side of a triangle be equal to the squares described on the other two sides of it, the angle contained by these two sides is a right angle.

6. If a straight line be divided into any two parts the square on the whole line is equal to the squares on the two parts together with twice the rectangle contained by the two parts.

7. Divide a given straight line into two parts, so that the rectangle contained by the whole and one of the parts may be equal to the square on the other part.

8. The opposite angles of any quadrilateral figure inscribed in a circle are together equal to two right angles.

9. If a straight line touch a circle and from the point of contact a straight line be drawn cutting the circle, the angles which this line makes with the line touching the circle shall be equal to the angles which are in the alternate segments of the circle.

10. In a triangle ABC is inscribed a circle which touches the sides BC, CA, AB in D, E, F respectively. Join DE, EF, FD: and prove that the angle BAC together with twice the angle EDF are equal to two right angles.

11. Describe an isosceles triangle, having each of the angles at the base double of the third angle.

12. If two triangles have one angle of the one equal to one angle of the other, and the sides about the equal angles proportionals, the triangles shall be equiangular and shall have those angles equal which are opposite to the homologous sides.

13. Parallelograms which are equiangular to one another have to one another the ratio which is compounded of the ratios of their sides.

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SATURDAY, JUNE 13, from 2 to 4.30 P.M.

7. Mathematics.

1. Plane Trigonometry and use of Logarithms.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Define circular measure.

Find two angles whose sum is the unit of circular measure and of which the one contains as many degrees as the other does minutes.

2. Prove the equalities:

(1) $\sin 45^\circ = \frac{1}{\sqrt{2}}$;

(2) $\sin 3A = 3\sin A - 4\sin^3 A$;

(3) $(1-2\cos\theta)^2 - \tan^2\frac{\theta}{2} = 1 - \tan^2\frac{\theta}{2}(1+2\cos\theta)^2$.

3. Prove that the sine of an angle is equal to the cosine of its complement; and that

$$(\sin 72^\circ + \sin 18^\circ)^2 = 1 + \sin 36^\circ.$$

4. In the plane triangle of which A, B, C are the angles, a, b, c the sides, r the radius of the inscribed circle, show that, if $2s = a+b+c$,

(1) $\frac{\sin A}{a} = \frac{\sin B}{b} = \frac{\sin C}{c}$;

(2) $\tan\frac{A}{2} = \sqrt{\frac{(s-b)(s-c)}{s(s-a)}}$;

(3) $r = a\frac{\sin\frac{B}{2}\sin\frac{C}{2}}{\cos\frac{A}{2}}$;

(4) $a(b^2+c^2)\cos A + b(c^2+a^2)\cos B + c(a^2+b^2)\cos C = 3abc$.

5. BB', CC' are the perpendiculars from two vertices of the triangle ABC upon the opposite sides. Prove that

$$B'C' = BC\cos A.$$

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6. Having given the logarithms in question 8 below, and also that log 3 = ·4771213, log 28061 = 4·4481031, log 28062 = 4·4481186, find the logarithm of 2, and the value of $\sqrt[5]{174}$.

7. A roadway is separated from a house by a foot-path a feet wide, and at a window of the house h feet above the ground the widths of the foot-path and the roadway subtend equal angles. Find the width of the latter in terms of a and h.

8. Discuss the ambiguous case in the solution of plane triangles.

In a plane triangle $a = 58$, $b = 72$, $A = 53° \, 13' \, 30''$, find B, having given,

$$\log 36 = 1{\cdot}5563025, \quad \log 29 = 1{\cdot}4623980,$$
$$L \sin 53° \, 13' \, 30'' = 9{\cdot}9036285, \quad L \sin 83° \, 53' = 9{\cdot}9975205,$$
$$L \sin 83° \, 54' = 9{\cdot}9975340.$$

2. Mensuration.

(Assume $\pi = 3\frac{1}{7}$.)

9. The sides AB, BC, CD, DA of a quadrilateral field are 120, 130, 30, 40 yards respectively; and the angle at A is a right angle. Find to the nearest inch the side of a square field equal to it in area.

10. It costs 10*l.* to put a fence round a circular pond whose area is an acre. How much will it cost to put similar fences round two other circular ponds one of which is 30 yards in diameter and the other 500 square yards in area?

11. Find the volume of a pyramid whose base is an equilateral triangle each side of which is 10 feet, and whose other faces are also equilateral triangles.

Find also the volume of a conical tent which is just large enough to contain the pyramid.

12. If a pound of paint be required for every three square yards of surface painted, how much will be required to cover a tapering mast 100 feet high, 2 feet in diameter at the bottom, and 6 inches in diameter at the top? (N.B. The top has to be painted but not the bottom.)

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FRIDAY, JUNE 12, from 5.30 to 8 P.M.

8. Mechanics and Mechanism.

[N.B. More credit will be given to a few questions answered fully than to a greater number answered imperfectly. The answers are to be illustrated by diagrams or drawings, where these can be introduced.]

1. State the proposition known as the parallelogram of forces; and show how it may be experimentally verified.

If forces 2, 3, 5 acting at a point maintain equilibrium they must act in the same straight line.

2. D, E and F are the middle points of the sides BC, CA, AB of a triangle, and O is any point. Prove that the resultant of forces represented in magnitude and direction by OA, OB and OC is the same as that of forces represented by OD, OE and OF.

3. Define *moment* of a force about a point.

Prove that the algebraical sum of the moments of two parallel forces acting towards the same parts about any point in their plane is equal to the moment of their resultant.

4. Find the centre of gravity of the area of a plane triangle.

Show, also, that, if three heavy particles placed at the vertices of the triangle have the same centre of gravity that the triangle has, they must be equal to one another.

5. Find the ratio of power to weight in a system of four pulleys each of which hangs by a separate vertical string, the lowest pulley being heavy but all the rest having such small weights that they may be neglected.

A ton of stone hangs from a moveable pulley weighing 10 lbs. and a string hanging from a fixed beam passes under this pulley and over a fixed pulley which hangs from the same beam. Find another weight which hanging from the string will be at rest.

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6. Define acceleration: and prove that if a particle moving in a straight line have a constant acceleration f the difference of its velocities at the beginning and end of an interval of t seconds will be ft.

A train starting from rest and supposed to have a constant acceleration has attained a speed of 5 miles an hour in ten seconds. Compare its acceleration with that of gravity.

7. A heavy particle lying on a smooth table one foot from its edge is connected by a fine thread passing over that edge with an equal particle which hangs freely. If it move from rest, find the time that will elapse before it reaches the edge of the table. (Assume $g = 32{\cdot}2$.)

8. A ball catches up another of double its mass which is moving in the same line with half its velocity, and after the impact the velocity of the second is found to be double that of the first. Find the co-efficient of elasticity.

9. Define specific gravity.

A cubic foot of water weighs 1000 ounces, a cubic foot of a certain kind of wood requires a weight of 20 ounces to be placed on its top when it is floating in water to completely immerse it, and a cubic foot of a second kind of wood weighs 10 ounces more than one of the first kind. Find the specific gravity of the second kind of wood.

10. Prove that the weight of a floating body must be equal to that of the water which it displaces; and that the centres of gravity of the body and the part of it immersed must be in the same vertical.

11. Describe and explain the action of the single barrelled air-pump; and if the volume of the receiver be 10 times that of the barrel find the density of air in the former after three strokes.

WEDNESDAY, JUNE 10, from 5.30 to 7.30 P.M.

9. Chemistry.

1. Explain what is meant by combination in multiple and reciprocal proportions, and give examples in illustration of both forms of combination.

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2. How is charcoal made from wood? What substance results when charcoal is burned with a limited supply of air; and what are the properties of this substance?

3. What gas is evolved when common salt, manganese peroxide, and sulphuric acid are heated together? Describe and explain the behaviour of this gas towards (1) a lighted taper; (2) powdered antimony; (3) solution of indigo.

4. Describe the appearance and general chemical character of amorphous phosphorus. How is it generally made, and how may it be converted into common phosphorus?

5. Describe the process which is adopted on the large scale for preparing sodium carbonate from common salt. How is sodium carbonate converted into caustic soda? To what purposes are these two substances largely applied in the arts?

6. How did Faraday liquefy ammonia and carbon dioxide? What are the most striking properties of liquid carbon dioxide?

7. Give a short account of the manufacture of sulphuric acid. How is sulphuric anhydride obtained, and what are its properties?

8. How much crystallised ferrous sulphate ($Fe\,SO_4 . 7\,H_2O$) can be made from 10 grams of iron? $Fe=56$; $S=32$.

MONDAY, JUNE 8, from 11 A.M. to 1 P.M.

9. Chemistry.

(*Practical Examination.*)

The tubes or papers marked I, II, III, IV, contain single substances, consisting of one metallic and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Sodium Oxalate. II. Brown Antimony Sulphide. III. Zinc Carbonate. IV. Nitrate of Barium.

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TWO HOURS ALLOWED.

Drawing from the Flat.

Copy in pen and ink, or in pencil, the accompanying outline, as nearly as you can the size of the original.

AN HOUR AND A HALF ALLOWED.

Drawing from the Solid.

Make a shaded drawing of the objects placed before you. The light should, if possible, come from the left hand.

In this Exercise the candidate must give careful attention to the gradations of shade in the various surfaces, any method of shading may be employed but the modelling should be expressed by gradation in shade only, not by direction of shading lines. Exaggeration of darkness is particularly to be avoided.

The objects were :—a white ewer placed upon a rectangular block.

THURSDAY, JUNE 11, from 5.30 to 7.30 P.M.

Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. Write four measures (bars) in each of the following rhythms, *varying* the notes (that is, employing quavers, crotchets &c.) in *each* measure—$\frac{3}{4}$, $\frac{6}{8}$, $\frac{3}{2}$ and $\frac{6}{4}$.

2. Put the following notes in the Alto and Tenor (C Clef) and Bass Clefs, respectively, and *in the same pitch*:—

3. Explain—Clef, Rhythm, Accidental, and Key-Signature.

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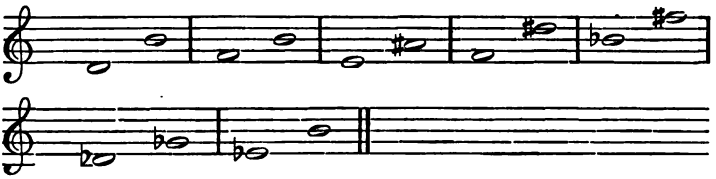
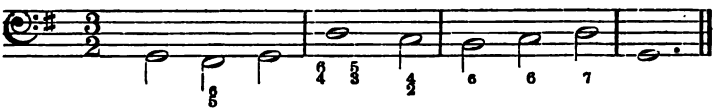
4. Write down and name the following intervals:—



5. Write *major* scales upon the following notes, inserting the sharps or flats as they occur—B, D♭, and A♯: and *minor* scales upon B, F♯ and E♭.

6. Write the Chord of the *Dominant Seventh* of each of the following *keys*—E♭, B, D♭ and F.

7. Add *three* parts to the following bass, either (1) in *short* score (that is, Treble and Alto parts in the Treble stave, and Tenor and Bass parts in the Bass stave): or (2) in *open score* (four staves), employing the proper Clefs. Extra marks will be given if answered in *open score.*



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EXAMINATION PAPERS.

SENIOR CANDIDATES.

TUESDAY, JUNE 9, from 11 A.M. to 1 P.M.

I. 1. English Grammar, Analysis and Composition.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation, and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Analyse:—

Let it consist with a man's interest to wrong you, and then it will be impossible you can have any hold on him; because there is nothing left to give him a check; for as long as he can conceal his injustice from the world he thinks he is safe.

2. Parse:—

Fulvia,
To have me out of Egypt, made wars here;
For which myself, the ignorant motive, do
So far ask pardon, as befits mine honour.

3. In what various ways are 'primary derivatives' formed? Give instances.

4. In what indirect ways, and with what shades of meaning, may the imperative be expressed?

5. Trace the distinctive uses and derivations of—one, too, the, because, the termination -ing, the prefix a-.

6. What is meant by the following terms?—noun, abstract, common, collective, proper.

7. Give instances of adjectives used adverbially, substantives used adjectivally, and adjectives used substantivally.

8. Write a short Essay on 'An estimate of the value of colonies to the mother-country,' *or*, 'The effect of scientific discoveries upon manners and customs.'

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TUESDAY, JUNE 9, from 9 to 11 A.M.

I. 2. Arithmetic.

[N. B. Every Candidate is required to satisfy the Examiners in this Paper.

No credit will be given for any answer, the full working of which is not shewn.]

1. Find by Practice the value of 137 articles at 13*s.* $7\frac{3}{4}$*d.* each.

2. At what rate per cent., simple interest, must 560*l.* be invested for 5 years to amount to 679*l.*?

3. What is gained or lost on 5550*l.* by buying into the Three per Cents. at $92\frac{1}{2}$, and, after receiving a year's interest, selling out at 90?

4. Find the cost of covering a cubical box, the edge of which is 2 ft. 4 in., with 6 pounds of lead to the square foot, lead being 2*l.* 2*s.* per cwt.

5. After paying 5*d.* in the 1*l.* Income Tax, a man has 1457*l.* Find his gross income.

6. Find the average value in whole numbers and decimals of $1\frac{2}{3}$, $\frac{3}{80}$, $2\frac{1}{16}$, $10\frac{1}{12}$, $\frac{5}{24}$, 0, $\frac{7}{10}$.

7. Reduce 12 cwt. 1 qr. 14 lbs. to the fraction (in its lowest terms) of 3 tons 12 cwt. 3 qrs. 21 lbs.

8. Simplify $\dfrac{3\frac{3}{4} \text{ of } 5\frac{7}{9}}{2\frac{1}{2}} - \dfrac{\frac{1}{5}+\frac{1}{6}}{1\frac{1}{5}-1\frac{1}{6}} \div 16\frac{1}{2}$: find the value of 3·54 divided (1) by 27·5, (2) by 2750: and reduce to a decimal $\frac{6075}{8505}$.

9. What is the value in napoleons of sixteen guineas, if 25 francs are given for a sovereign, and 20 francs are equal to one napoleon?

10. If 8 per cent. of a garrison of 4125 men desert to the enemy who number 6000, what is the gain per cent. to the enemy?

11. Divide one guinea between 8 men and 9 women, giving every three women the same as every two men.

12. What is the value of ·028125 of 1 mile 6 furlongs?

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MONDAY, JUNE 8, from 2 to 3 P.M.

A. (1). Ruth and Samuel I.

1. Explain the importance of the Book of Ruth in the Canon of Scripture. What is considered to be the design of the Book?

2. 'So he drew off his shoe.' Describe fully the custom alluded to in these words.

3. Give a careful account of the nature of the sin which resulted in the taking away the Kingdom from Saul. What reference is made to it in the New Testament?

4. State what you know about Shiloh, Ed, Michal, Achish, Mizpeh, Gilboa.

5. In what connexion do the following words occur?—

(*a*) 'The Almighty hath dealt very bitterly with me.'

(*b*) 'It is the Lord, let Him do what seemeth Him good.'

(*c*) 'Is it not wheat-harvest to-day?'

(*d*) 'The Lord looketh on the heart.'

(*e*) 'I have occasioned the death of all the persons of thy father's house.'

(*f*) 'As his part is that goeth down to battle, so shall his part be that tarrieth by the stuff.'

MONDAY, JUNE 8, from 3 to 4 P.M.

A. (2). The Gospel according to St. Luke.

1. What were our Lord's instructions to the seventy disciples?

2. Write a narrative of the Temptation and explain our Lord's replies.

3. When was the Lord's Prayer given? What parables teach the duty of prayer?

4. What do you know about the chief priests, Jairus, Anna, Herod the tetrarch, Barabbas?

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5. Explain with reference to the context:—

(*a*) Except ye repent, ye shall all likewise perish.

(*b*) They that are whole need not a physician.

(*c*) To-day is the third day since these things were done.

(*d*) I have prayed for thee, that thy faith fail not.

(*e*) The Lord hath need of him.

6. Translate and explain:—

Πωλήσατε τὰ ὑπάρχοντα ὑμῶν, καὶ δότε ἐλεημοσύνην. ποιήσατε ἑαυτοῖς βαλάντια μὴ παλαιούμενα, θησαυρὸν ἀνέκλειπτον, ἐν τοῖς οὐρανοῖς, ὅπου κλέπτης οὐκ ἐγγίζει, οὐδὲ σὴς διαφθείρει. ὅπου γάρ ἐστιν ὁ θησαυρὸς ὑμῶν, ἐκεῖ καὶ ἡ καρδία ὑμῶν ἔσται. Ἔστωσαν ὑμῶν αἱ ὀσφύες περιεζωσμέναι, καὶ οἱ λύχνοι καιόμενοι.

Parse—ἀνέκλειπτον, ἔστωσαν, περιεζωσμέναι.

Explain the words:—σινιάσαι, ἐγκαθέτους, ψιχίων, ἀφέωνται, σκύλλε, τοῦ μαμωνᾶ τῆς ἀδικίας.

MONDAY, JUNE 8, from 4 to 5 P.M.

A. (3). Acts xiii.-xxviii.

1. Shew fully, by reference to the history in this part of the Acts, how Jewish observances were regarded by the early Christians.

2. Give an outline of St. Paul's speech at Antioch in Pisidia. What was its effect upon his hearers?

3. What do you know about the Stoics, Lysias, Festus, and Silas?

4. Give the context, and explanation, of the following passages:

(*a*) 'I persecuted this way unto the death.'

(*b*) 'The law is open, and there are deputies, let them implead one another.'

(*c*) 'Have ye received the Holy Ghost since ye believed?'

(*d*) 'I stand at Caesar's judgment seat.'

5. Describe St. Paul's Third Missionary Journey. Who accompanied him?

6. What were the positions of Ephesus and Corinth respectively, and what was the general character of each city?

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7. Translate:—

Ὡς δὲ εἶδον οἱ βάρβαροι κρεμάμενον τὸ θηρίον ἐκ τῆς χειρὸς αὐτοῦ, ἔλεγον πρὸς ἀλλήλους, Πάντως φονεύς ἐστιν ὁ ἄνθρωπος οὗτος, ὃν διασωθέντα ἐκ τῆς θαλάσσης ἡ δίκη ζῆν οὐκ εἴασεν. ὁ μὲν οὖν ἀποτινάξας τὸ θηρίον εἰς τὸ πῦρ ἔπαθεν οὐδὲν κακόν. οἱ δὲ προσεδόκων αὐτὸν μέλλειν πίμπρασθαι ἢ καταπίπτειν ἄφνω νεκρόν· ἐπὶ πολὺ δὲ αὐτῶν προσδοκώντων, καὶ θεωρούντων μηδὲν ἄτοπον εἰς αὐτὸν γινόμενον, μεταβαλλόμενοι ἔλεγον θεὸν αὐτὸν εἶναι.

8. Translate and explain the following words and sentences:—*ὅτι ἐγὼ ἤμην φυλακίζων καὶ δέρων κατὰ τὰς συναγωγὰς τοὺς πιστεύοντας ἐπὶ σέ—μετὰ τὰς ἡμέρας τῶν ἀζύμων—ἐν ᾧ ὑμᾶς τὸ πνεῦμα τὸ ἅγιον ἔθετο ἐπισκόπους ποιμαίνειν τὴν ἐκκλησίαν τοῦ Θεοῦ, ἣν περιεποιήσατο διὰ τοῦ ἰδίου αἵματος—χαράγματι τέχνης καὶ ἐνθυμήσεως ἀνθρώπου.*

MONDAY, JUNE 9, from 7 to 8 P.M.

A. (4). The Second Epistle to the Corinthians.

1. At what period of his life, from what place, and under what circumstances did St. Paul write this Epistle?

2. To what especial dangers was the Corinthian Church exposed?

3. 'The brother, whose praise is in the gospel, throughout all the churches.' To whom is it probable that St. Paul refers? Give reasons for your answer.

4. What does St. Paul say about—
   (*a*) The relation of the Law to the Gospel?
   (*b*) The Resurrection?

5 What practical lessons with regard to Almsgiving may be learnt from this epistle?

6. Explain, with reference to the context:—
   (*a*) But we had the sentence of death in ourselves.
   (*b*) And all things are of God, who hath reconciled us to himself by Jesus Christ, and hath given to us the ministry of reconciliation.
   (*c*) His bodily presence is weak, and his speech contemptible.

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7. Translate, with explanations where necessary :—

(*a*) Ἔχοντες οὖν τοιαύτην ἐλπίδα, πολλῇ παρρησίᾳ χρώμεθα. καὶ οὐ καθάπερ Μωσῆς ἐτίθει κάλυμμα ἐπὶ τὸ πρόσωπον ἑαυτοῦ, πρὸς τὸ μὴ ἀτενίσαι τοὺς υἱοὺς Ἰσραὴλ εἰς τὸ τέλος τοῦ καταργουμένου· ἀλλ' ἐπωρώθη τὰ νοήματα αὐτῶν. ἄχρι γὰρ τῆς σήμερον τὸ αὐτὸ κάλυμμα ἐπὶ τῇ ἀναγνώσει τῆς παλαιᾶς διαθήκης μένει, μὴ ἀνακαλυπτόμενον, ὅτι ἐν Χριστῷ καταργεῖται.

(*b*) Τὰ γὰρ ὅπλα τῶς στρατείας ἡμῶν οὐ σαρκικὰ, ἀλλὰ δυνατὰ τῷ Θεῷ πρὸς καθαίρεσιν ὀχυρωμάτων.

(*c*) Ἀσπάσασθε ἀλλήλους ἐν ἀγίῳ φιλήματι.

MONDAY, JUNE 8, from 6 to 7 P.M.

A. (5). The Catechism. Morning and Evening Services and Litany. History of the Prayer Book.

1. Explain the Third Commandment, in the words of the Catechism, and in your own words. In what different ways may the Ten Commandments be divided?

2. How did the Apostles' Creed originate? When did it assume its present form, and when was it first used in the services of the Church?

3. What are the Canticles? Whence are they taken, and why do they hold their present position in the Prayer Book?

4. Explain the following words and phrases, stating where they occur :—the Communion of Saints, the elect people of God, endue, the Ordinary, Bishops and Pastors.

5. By what titles is the Second Person of the Holy Trinity addressed in the Litany? Explain their significance.

6. From what sources is the Book of Common Prayer mainly derived? When was it first put out in English?

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WEDNESDAY, JUNE 10, from 2 to 4.30 P.M.

B. 1. Greek and Roman History.

[N.B. Candidates are expected to answer some questions from each division of this paper.]

Greek History.

1. Compare the power and resources of the Greeks with those of the Persian monarchy, and describe shortly the events which led to the Persian wars.

2. Describe the route of Xerxes from Sardis to Thermopylae, and point out his principal difficulties.

3. The geographical position, and importance in the Persian wars of Aegina, Artemisium, Marathon, Naxos, Phalerum, Salamis, Sestos, Troezen.

4. Explain the policy during the Persian wars of Argos, Lacedemon, and Thebes.

5. What different causes combined to make Athens the most important state in Greece between the Persian and Peloponnesian wars?

6. Why was Athens at first successful and finally defeated in the Peloponnesian war?

Roman History.

7. Give the principal stages in the Roman conquest of Italy. How far was this complete at the end of your period?

8. Show the importance in Roman history of the Decemvirate, the Licinian Rogations, and the leges Publiliae.

9. Give an account of the position and functions of the consuls, the dictator, and the tribunes of the people, and illustrate from the history the actual working of these offices.

10. Compare the power and resources of Rome and Carthage at the beginning of the Punic wars. In what did the strength or weakness of each state mainly lie?

11. Describe the geographical position of Carthage and its territory, and of Agrigentum, Eryx, Panormus, Syracuse, with a short account of the events connected with these latter places.

12. What were the characteristics of naval warfare in the First Punic war? How far may it be considered a naval war?

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WEDNESDAY, JUNE 10, from 2 to 4.30 P.M.

B. 2. English History and Literature.

[N.B. Candidates are expected to answer some questions from each division of this Paper.]

1. Enumerate the chief results of the Norman Conquest.

2. Give a summary of the history of the Hundred Years' War. What were its effects on English History?

3. Enumerate the chief ecclesiastical changes that were effected during the reign of Henry VIII.

4. Sketch the history of Ireland during the seventeenth and eighteenth centuries.

5. Give a short account of the Revolution of 1688, and describe its effects on English political history.

6. Write short lives of Thomas Cromwell, Pym, Falkland, Clarendon, Bolingbroke, Henry Pelham, C. J. Fox and Canning.

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7. Write a short history of Mary Queen of Scots. Was Elizabeth justified in executing her?

8. Write short lives of Drake, Raleigh, Frobisher, Archbishop Parker, John Knox and Cardinal Pole.

9. Sketch the relations between England and Spain during the whole of your special Period.

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10. In what does the greatness of the Elizabethan literature consist?

11. Give an account of the lives and works of Marlowe, Ascham, Chapman, Spenser and Hooker.

12. What do you know of the following works?—Arcadia, the School of Abuse, The Art of English Poesie, Ferrex and Porrex, and the Mirror for Magistrates.

TUESDAY, JUNE 9, from 5.30 to 7.30 P.M.

B. 3. Shakspeare's Tempest, and Burke's Thoughts on the Present Discontents.

Shakspeare's Tempest.

1. What reasons have we for believing that the Tempest was one of the latest plays written by Shakspeare?

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2. 'Caliban is the essence of grossness, without a touch of vulgarity.'

'The general consent of critics identifies Shakspeare more with Prospero than with any other of his characters.'

'Miranda is an impossible character.'

Comment on these statements.

3. Give the etymology and meaning of the following words:—urchin, bombard, kibe, bosky, discase, yarely, meander.

4. Explain, with reference to their context, the following passages:—

(*a*) Who to advance and who
To trash for over-topping.

(*b*) We would so, and then go a bat-fowling.

(*c*) Ebbing men, indeed,
Most often do so near the bottom run
By their own fear or sloth.

(*d*) Hail many colour'd messenger, that ne'er
Dost disobey the wife of Jupiter.

(*e*) He's a present for any emperor that ever trod on neat's-leather.

5. To what sources can any portions of this play be attributed?

Burke's Thoughts on the Present Discontents.

6. Describe the state of parties in England in 1770.

7. How does Burke prove that the Double Cabinet System is contrary to the spirit of the English Constitution?

8. Explain the following allusions:—

(*a*) 'An attempt to strip a particular friend of his family estate.'

(*b*) 'Under a forced coalition there rankled an incurable alienation.'

(*c*) 'It was called *necessitudo sortis*.'

(*d*) 'The ransom of Manilla.'

9. What are Burke's views with regard to the question of the Middlesex Election?

10. Examine the statement that Burke 'led the way in Reform, while raising his voice against innovation.'

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TUESDAY, JUNE 9, from 2 to 4.30 P.M.

B. 4. Physical, Political, and Commercial Geography.

[N.B. Candidates are expected to answer one question *at least* from each section of this paper.]

SECTION I.

1. In the accompanying map of England and Wales:—

(1) Trace the Pennine range, marking Cheviot Hill, Crossfell, Peak of Derby, Whernside.

(2) Trace the course of the Severn, Trent, Ribble, Dee, Ouse (Yorkshire).

(3) Mark with an asterisk, Haverford West, Grantham, Carnarvon, Darlington, Taunton, Evesham;

and in every case insert the names.

2. Describe the physical formation of Spain. What has been its influence on the character and history of the people?

3. Draw a sketch map of either the Nile or the Oder, marking tributaries and towns on their banks.

4. What, in your opinion, is the value of Mountain chains and rivers as national boundaries and military defences?

SECTION II.

5. Define the divisions of the Turanian and Slavonic races in Europe. State what you know of their settlement in Europe.

6. Enumerate the capitals of, and describe the various forms of government in the South American States.

7. Give the position and political importance of New Guinea, Afghanistan, Bechuanaland, Switzerland.

8. Describe the principal changes in the map of Europe since 1815.

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SECTION III.

9. Describe the various trade routes between East and West previous to the discovery of the Cape of Good Hope.

10. State the causes of the importance of Bokara, Suakim, Hongkong, Dundee, Callao.

11. From what countries are the following commodities chiefly exported:—palm-oil, hides, vanilla, sugar, mahogany?

12. What are the principal products of:—The Argentine Republic, Borneo, Canada, Austria and Egypt?

TUESDAY, JUNE 9, from 2 to 4.30 P.M.

B. 5. Outlines of Political Economy.

1. Explain the causes which determine the price of goods, and the different conditions under which they operate.

2. 'The rate of profit depends on the Cost of Labour.' Explain this theory, and examine (*a*) its truth, (*b*) its value in elucidating facts.

3. State your theory of Rent, give the reasoning by which it is proved, deal with objections to it, and show how it explains facts.

4. 'The value of money depends on Demand and Supply.' Explain this, and shew on what the Demand for and Supply of money depend.

5. What is meant by 'Credit,' and what are its chief economic effects?

6. Trace the operation of the different causes which affect the average rate of wages in a country.

7. By what different causes is the growth of population affected? Illustrate from experience.

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WEDNESDAY, JUNE 10, from 9 to 11 A.M.

C. I. Latin.

A Second Latin Paper will be given to you at 11 a.m.

I.

LIVY, Book xxii. VIRGIL, *Aen.* xii.

[N.B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate into English :—

Per superos oro, per avitae lumina flammae,
  Per meritum et natos, pignora nostra, duos,
Redde torum, pro quo tot res insana reliqui ;
  Adde fidem dictis, auxiliumque refer.
Non ego te imploro contra taurosque virosque,
  Utque tua serpens victa quiescat ope.
Te peto, quem merui, quem nobis ipse dedisti;
  Cum quo sum pariter facta parente parens.
Dos ubi sit, quaeris? Campo numeravimus illo,
  Qui tibi laturo vellus arandus erat.
Aureus ille aries villo spectabilis aureo,
  Dos mea : quam dicam si tibi redde, neges.
Dos mea tu sospes : dos est mea Graia juventus :
  I nunc, Sisyphias, improbe, confer opes.

2. Translate into English :—

(*a*) Qui ad transitum saltus insidendum locati erant, ubi in summis montibus ac super se quosdam ignes conspexerunt, circumventos se esse rati praesidio excessere ; qua minimae densae micabant flammae, velut tutissimum iter petentes summa montium juga, tamen in quosdam boves palatos ab suis gregibus inciderunt. Et primo cum procul cernerent, veluti flammas spirantium miraculo attoniti constiterunt ; deinde ut humana apparuit fraus, tum vero insidias rati esse, dum majore metu concitant se in fugam, levi quoque armaturae hostium incurrere.

(*b*) Et prudentiam quidem novi ductoris extemplo timuit : constantiam haud-dum expertus, agitare ac tentare animum movendo crebro castra populandoque in oculis ejus agros sociorum coepit. Et modo citato agmine ex conspectu abibat, modo repente in aliquo flexu viae, si excipere degressum in aequum posset, occultus obsistebat. Fabius per

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loca alta agmen ducebat, modico ab hoste intervallo, ut neque omitteret eum neque congrederetur. Castris, nisi quantum usus necessario cogeret, tenebatur miles. Pabulum et ligna nec pauci petebant nec passim.

(*c*) Concurrunt Itali, spoliantque calentia membra.
Obvius ambustum torrem Corynaeus ab ara
Corripit, et venienti Ebuso plagamque ferenti
Occupat os flammis. Olli ingens barba reluxit,
Nidoremque ambusta dedit. Super ipse secutus
Caesariem laeva turbati corripit hostis,
Impressoque genu nitens terrae applicat ipsum:
Sic rigido latus ense ferit. Podalirius Alsum,
Pastorem primaque acie per tela ruentem,
Ense sequens nudo superimminet; ille securi
Adversi frontem mediam mentumque reducta
Disjicit et sparso late rigat arma cruore.

3. Translate and comment on the following passages:—

(*a*) Libertini etiam, quibus liberi essent et aetas militaris, in verba juraverant.

(*b*) Itaque plebei scitum, quo oneratus magis quam honoratus sum, primus antiquo abrogoque.

(*c*) Dum trahitur pendetque jugis, hunc lata retectum
Lancea consequitur, rumpitque infixa bilicem
Loricam, et summum degustat vulnere corpus.

4. Give accurate translation and explain fully the meaning of:—limes agro positus, litem ut discerneret arvis—hoc habet—teritur qua sutilis alvo balteus et laterum juncturas fibula mordet—ille ut depositi proferret fata parentis—Aeneas tortos legit obvius orbis.

WEDNESDAY, JUNE 10, from 11 A.M. to 1 P.M.

C. I. Latin.

II.

[N. B. Latin Prose is required of all Candidates in order to obtain exemption from Responsions.]

1. Translate into Latin Prose:—

This was the most glorious day that not only Alcibiades, but Athens herself had seen since the beginning of this

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unfortunate war. Whatever losses had been sustained, the people now felt elevated and comforted for their previous reverses; and however much Athens had grown old and weak, yet every thing was now revived. On that day the walls and gates were guarded only by as many as were needed: all the rest of the people crowded to Piræus to receive the fleet and welcome the returning Alcibiades. He was reconciled to the people; and every one at Athens was full of the brightest hopes and of the joy of victory, although perhaps no one had formed any definite idea of the issue of the war.

2. Give the nominative singular, gender and meaning of—arundine, carnis, visceribus, ambagum; and the genitive plural of limes, mus, jecur, cor, cinis.

3. Give the perfect, supine, and present subjunctive of—comminiscor, comperio, sisto, sto, figo: and parse—orsus, ratus, textum, experrectus.

4. Translate into Latin:—All the best men do this. Tell me, who was the first to see him. He gave them four books apiece. Give the meaning of—heri, perendie, tot, totidem, quisquis.

5. Explain, with an example for each, the terms—synecdoche, ablative absolute, inchoative verb, prolative infinitive.

6. Distinguish carefully between the Gerund and the Gerundive, and illustrate your answer.

7. Explain and translate:—'Operae pretium est,' 'parvi pendere' and give the meaning of the words supplicatio, justitium, antestari, conventus.

8. State some of the uses of the conjunctions—dum, dummodo, ne, postquam, ut.

9. For Latin Elegiacs:—

When winter winds are piercing chill,
And through the hawthorn blows the gale.
With solemn feet I tread the hill,
That overbrows the lonely vale.

O'er the bare upland, and away
Through the long reach of desert woods,
The embracing sunbeams chastely play,
And gladden these deep solitudes.

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SATURDAY, JUNE 13, from 9 to 11 A.M.

C. 2. Greek.

A second Greek Paper will be given to you at 11 a.m.

I

XEN. *Anab.* I, II. SOPH. *Ajax.*

[N.B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate:—

Ἐπεὶ δὲ συνεκαθίζετο τὸ δικαστήριον, τότε δὴ κατηγορεῖτο τοῦ Ἰσμηνίου καὶ ὡς βαρβαρίζοι καὶ ὡς ξένος τῷ Πέρσῃ ἐπ' οὐδενὶ ἀγαθῷ τῆς Ἑλλάδος γεγενημένος εἴη καὶ ὡς τῶν παρὰ βασιλέως χρημάτων μετειληφὼς εἴη καὶ ὅτι τῆς ἐν τῇ Ἑλλάδι ταραχῆς πάσης ἐκεῖνός τε καὶ Ἀνδροκλείδας αἰτιώτατοι εἶεν. ὁ δὲ ἀπελογεῖτο μὲν πρὸς πάντα ταῦτα, οὐ μέντοι ἔπειθέ γε τὸ μὴ οὐ μεγαλοπράγμων τε καὶ κακοπράγμων εἶναι. καὶ ἐκεῖνος μὲν κατεψηφίσθη καὶ ἀποθνήσκει· οἱ δὲ περὶ Λεοντιάδην εἶχόν τε τὴν πόλιν καὶ τοῖς Λακεδαιμονίοις ἔτι πλείω ὑπηρέτουν ἢ προσετάττετο αὐτοῖς.

2. Translate:—

(a) Ἐθεώρει οὖν ὁ Κύρος πρῶτον μὲν τοὺς βαρβάρους (οἱ δὲ παρήλαυνον τεταγμένοι κατ' ἴλας καὶ κατὰ τάξεις), εἶτα δὲ τοὺς Ἕλληνας, παρελαύνων ἐφ' ἅρματος, καὶ ἡ Κίλισσα ἐφ' ἁρμαμάξης. Εἶχον δὲ πάντες κράνη χαλκᾶ, καὶ χιτῶνας φοινικοῦς, καὶ κνημῖδας, καὶ τὰς ἀσπίδας ἐκκεκαθαρμένας. Ἐπεὶ δὲ πάντας παρήλασε, στήσας τὸ ἅρμα πρὸ τῆς φάλαγγος, πέμψας Πίγρητα τὸν ἑρμηνέα παρὰ τοὺς στρατηγοὺς τῶν Ἑλλήνων, ἐκέλευσε προβαλέσθαι τὰ ὅπλα καὶ ἐπιχωρῆσαι ὅλην τὴν φάλαγγα. Οἱ δὲ ταῦτα προεῖπον τοῖς στρατιώταις· καὶ ἐπεὶ ἐσάλπιγξε, προβαλλόμενοι τὰ ὅπλα ἐπῄεσαν.

(b) Τούτων δὲ τοιούτων ὄντων, τίς οὕτω μαίνεται, ὅστις οὐ σοὶ βούλεται φίλος εἶναι; Ἀλλὰ μὴν (ἐρῶ γὰρ καὶ ταῦτα, ἐξ ὧν ἔχω ἐλπίδας, καί σε βουλήσεσθαι φίλον ἡμῖν εἶναι·) οἶδα μὲν γὰρ ὑμῖν Μυσοὺς λυπηροὺς ὄντας, οὓς ἐλπίζω ἂν σὺν τῇ παρούσῃ δυνάμει ταπεινοὺς ὑμῖν παρασχεῖν· οἶδα δὲ καὶ Πεισίδας· ἀκούω δὲ καὶ ἄλλα ἔθνη πολλὰ τοιαῦτα εἶναι, ἃ οἶμαι ἂν παῦσαι ἐνοχ-

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λοῦντα ἀεὶ τῇ ὑμετέρᾳ εὐδαιμονίᾳ. Αἰγυπτίους δὲ, οἷς μάλιστα ὑμᾶς νῦν γιγνώσκω τεθυμωμένους, οὐχ ὁρῶ, ποίᾳ δυνάμει συμμάχῳ χρησάμενοι μᾶλλον ἂν κολάσεσθε τῆς νῦν σὺν ἐμοὶ οὔσης.

3. Translate, and if necessary explain :—

(*a*) *Ἀπέπεμπε τοὺς γιγνομένους δασμούς.*

(*b*) *Ἐξεκύμαινέ τι τῆς φάλαγγος.*

(*c*) *Οὐδὲ γὰρ ἂν πολλαὶ γεφύραι ὦσιν ἔχοιμεν ἂν ὅπου φυγόντες ἡμεῖς σωθῶμεν.*

(*d*) *Ὁ δὲ Κλέαρχος ἡγεῖτο μὲν εἰς δύο.*

4. Translate :—

(*a*) *Κεῖνος γὰρ ἄκρας νυκτός, ἡνίχ' ἕσπεροι*
λαμπτῆρες οὐκέτ' ᾖθον, ἄμφηκες λαβὼν
ἐμαίετ' ἔγχος ἐξόδους ἕρπειν κενάς.
κἀγὼ 'πιπλήσσω καὶ λέγω, τί χρῆμα δρᾷς,
Αἴας; τί τήνδ' ἄκλητος οὔθ' ὑπ' ἀγγέλων
κληθεὶς ἀφορμᾷς πεῖραν οὔτε του κλύων
σάλπιγγος; ἀλλὰ νῦν γε πᾶς εὕδει στρατός.

(*b*) *Τίς ἂν δῆτά μοι, τίς ἂν φιλοπόνων*
ἁλιαδᾶν ἔχων ἀΰπνους ἄγρας,
ἢ τίς Ὀλυμπιάδων θεᾶν, ἢ ῥυτῶν
βοσπορίων ποταμῶν, τὸν ὠμόθυμον
εἴ ποθι πλαζόμενον λεύσσων
ἀπύοι; σχέτλια γὰρ
ἐμέ γε τὸν μακρῶν ἀλάταν πόνων
οὐρίῳ μὴ πελάσαι δρόμῳ,
ἀλλ' ἀμενηνὸν ἄνδρα μὴ λεύσσειν ὅπου.

5. Explain the constructions in the following lines :—

(*a*) *Ὥρα τιν' ἤδη . . . θόον εἰρεσίας ζυγὸν ἑζόμενον*
ποντοπόρῳ ναὶ μεθεῖναι.

(*b*) *Εἶτ' ὀνείδεσιν*
ἤρασσον ἔνθεν κἄνθεν . . . ὡς οὐκ ἀρκέσοι
τὸ μὴ οὐ πέτροισι πᾶς καταξανθεὶς θανεῖν.

(*c*) *Κεῖνος γὰρ ἔπερσεν ἀνθρώπους.*
ἐκεῖνος οὔτε στεφάνων
οὔτε βαθειᾶν κυλίκων
νεῖμεν ἐμοὶ τέρψιν ὁμιλεῖν.

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SATURDAY, JUNE 13, from 11 A.M. to 1 P.M.

C. 2. Greek.

II.

1. Translate into Greek Prose:—

Of the truth of this narrative I feel persuaded: it has been repeated by the Arcadians from old times, and it carries probability along with it. For the men of that day, from their justice and piety, were guests and companions at table with the gods, who manifested towards them approbation when they were good, and anger if they behaved ill: indeed at that time there were some, who having once been men, became gods, and who yet retain their honour as such. But in my time the wicked have so much increased in number that men no longer become gods: moreover the anger of the gods is slow in falling upon the bad.

2. State briefly the rules for the principal and dependent sentences of oratio obliqua in Greek.

3. What is the meaning of—*εἰ, ἵνα, ἵνα ἂν, καίπερ, πρὶν*, and with what constructions can they be used?

4. Parse—*συθεὶς, κέκαρσαι, ἔαγε, ἀρᾷ, ἐκτείνας.*
Compare—*φίλος, πρὸ, εὔδιος, ἄφθονος, ὀξέως.*
Give the genit. sing. and accus. pl. of—*κέλευθος, δμώς, ὁστισοῦν, ἑστώς, ἀχλύς.*

5. Write down the—

1st pers. pl. pluperf. of *οἶδα*,
3rd pers. sing. fut. indic. of *πίνω*,
2nd pers. pl. pres. subj. of *ὀρθόω*,
2nd pers. pl. 1st aor. ind. pass. of *κορέννυμι*,
1st pers. pl. 2nd aor. opt. act. of *ξυνίημι*.

6. For Greek Iambics:—

Father, forbear! for I but meet to-day
The doom that at my birth was written down
In Heaven, and thou art Heaven's unconscious hand.
Surely my heart cried out that it was thou,
When first I saw thee: and thy heart spoke too—
But let us speak no more of this! I find
My father: let me feel that I have found!
Come, sit beside me on this sand, and take
My head between thy hands, and kiss my cheeks,
And wash them with thy tears, and say, 'My son!'

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THURSDAY, JUNE 11, from 9 to 10.15 A.M.

C. 3. French.

A second French paper will be given to you at 10.15 a.m.

I.

1. Translate into English:—

(*a*) Il reprenait le chemin des avant-postes. Là dans le silence des champs coupés de tranchées, au haut des parapets desquelles on apercevait de temps en temps l'éclair du fusil d'une sentinelle embusquée, il restait des heures à regarder l'horizon gris. Sur la terre glacée, les betteraves et les choux se fanaient abandonnés, entre les lignes françaises et prussiennes. A un kilomètre une ligne d'arbres maigres et noirs s'étendait le long d'une route déserte. Au delà le terrain s'élevait en pente douce vers les villages de l'Hay et de Chevilly dont les maisons blanches apparaissaient noyées dans un brouillard bas. Sur la droite, au-dessous de Châtillon, les batteries allemandes faisaient lentement feu sur les forts et dans l'air glacé, les obus passaient en ronflant. Pas un être vivant n'apparaissait dans les retranchements ennemis. C'était un siège fait par une armée invisible, enfoncée sous la terre, et révélant sa présence, les jours de combat, par des fusillades nourries et des cannonades écrasantes dont on ne voyait que la fumée et la flamme.

(*b*) Le champ mort et désert, où les frelons autrefois bourdonnaient seuls autour des fleurs grasses, dans le silence écrasant du soleil, est devenu ainsi un lieu retentissant qu'emplissent de bruit les querelles des bohémiens et les cris aigus des jeunes vauriens du faubourg. Une scierie, qui débite dans un coin les poutres du chantier, grince, servant de basse sourde et continue aux voix aigres. Cette scierie est toute primitive: la pièce de bois est posée sur deux trétaux élevés, et deux scieurs de long, l'un en haut monté sur la poutre même; l'autre en bas, aveuglé par la sciure qui tombe, impriment à une large et forte lame de scie un continuel mouvement de va-et-vient. Pendant des heures, ces hommes se plient, pareils à des pantins articulés, avec une régularité et une sécheresse de machine. Le bois qu'ils débitent est rangé, le long de la muraille du fond, par tas hauts de 2 ou 3 mètres, et méthodiquement construits, planche à planche, en forme de cube parfait. Ces sortes de meules carrées, qui restent souvent là plusieurs saisons, rongées d'herbes au ras du sol sont un des charmes de l'aire Saint-Mittre. Elles

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ménagent des sentiers mystérieux, étroits et discrets, qui conduisent à une allée plus large, laissée entre les tas et la muraille. C'est un désert, une bande de verdure d'où l'on ne voit que des morceaux de ciel. Dans cette allée, dont les murs sont tendus de mousse et dont le sol semble couvert d'un tapis de haute laine, règnent encore la végétation puissante et le silence frissonnant de l'ancien cimetière.

THURSDAY, JUNE 11, from 10.15 A.M. to 12.30.

C. 3. French.

II.

1. Translate into French:—

If we desire to become learned we must study the works of learned men. We are not to suppose that science can be acquired without effort; whoever has learnt much must also have worked much. We ought every day to learn something new, and what we have just learnt ought to give us confidence and encourage us to persevere in the study of what still remains to be learnt. It is not enough to have talent, we need also application in order that we may avoid the regrets which must torment those who were idle when they ought to have worked.

2. Give the rule for the repetition of the Personal Pronoun as subject and as object, and translate into French:—

(*a*) She and I will go.
(*b*) He and his brother will come.
(*c*) She will see me and my brother.

3. Write in the Pres. Inf. and translate:—croit, croît—vaincu, vécu—mort, mordu—couru, cousu—bâtis, battis.

4. Explain the genitive in the sentence 'Qu'a-t-il fait de si beau?' and state after what words this use of the genitive occurs.

5. Construct French sentences illustrating the way of rendering 'what' when Relative and when Interrogative; and translate 'What a beautiful picture!'

6. Explain why the Past Participle is variable in: 'Ils se sont trompés'; 'Elle s'est laissée tomber,' but not in: 'Ils se sont nui;' 'Elle s'est laissé tromper.'

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7. The negative particle *ne* is occasionally used without *pas*. Illustrate this; and give examples of *ne* being used without a negative meaning.

8. 'When the Predicate is placed before the Subject the latter is generally emphasised by *que*.' Illustrate this with examples when the subject is (1) a Substantive, (2) an Infinitive.

9. Translate into French:—

My worthy friend, Sir Roger, when we are talking of the malice of parties, very frequently tells us an accident that happened to him when he was a school-boy, which was at a time when the feuds ran very high between the Roundheads and Cavaliers. This worthy knight, being then but a stripling, had occasion to enquire which was the way to St. Anne's Lane, upon which the person whom he spoke to, instead of answering his question, called him a young popish cur, and asked him who had made Anne a Saint? The boy, being in some confusion, enquired of the next he met, which was the way to Anne's Lane; but, instead of being shewn the way, was told that she had been a Saint before he was born, and would be one after he was hanged. Upon this, says Sir Roger, I did not think fit to repeat the former questions, but going into every lane in the neighbourhood, asked what they called the name of that lane.

FRIDAY, JUNE 12, from 9 to 10.30 A.M.

C. 4. German.

A Second German Paper will be given to you at 10.30 a.m.

I.

Translate into English:—

(A) Als zwölfjähriger Knabe wird Cyrus von der Mutter zum Grossvater gebracht, und als der an Persische Einfachheit gewohnte Knabe den nach Medischer Sitte prächtig geschmückten König sieht, ruft er staunend aus: 'O Mutter, wie schön ist mein Grossvater!'

Astyages beschenkte ihn mit einem schönen Gewande und mit goldenen Ketten und Armbändern, worüber sich der

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Knabe sehr freute; und als er ihn gar reiten lernen liess, da war er von Wonne ausser sich.

Beim Mahle wunderte sich der Knabe über die vielen Gerichte. 'Grossvater,' sagte er, 'wie viele Mühe hast du, wenn du nach allen diesen Schüsseln die Hand ausstrecken und von allen diesen Gerichten kosten musst. Wir wissen den Hunger einfacher zu stillen: Brot und Fleisch thun bei uns dasselbe.' 'Aber koste nur,' sagte der Grossvater, 'und du wirst finden wie süss es schmeckt.' 'Und doch,' meinte der Knabe, 'scheinst du mir einen Ekel davor zu haben; denn wenn du Brot anrührst, wischst du die Hand nicht ab; wenn du aber etwas von den Leckereien angreifst, reinigst du gleich deine Hände an einem Handtuche.'

(B) Die schöne Sonne
Ist ruhig hinabgestiegen ins Meer;
Die wogenden Wasser sind schon gefärbt
Von der dunkeln Nacht,
Nur noch die Abendröthe
Überstreut sie mit goldenen Lichtern,
Und die rauschende Fluthgewalt
Drängt ans Ufer die weissen Wellen,
Die lustig und hastig hüpfen,
Wie wollige Lämmerherden,
Die Abends der singende Hirtenjunge
Nach Hause treibt.

(C) Hinweg mit der falsch verstandenen Schonung und dem schlaffen verzärtelten Geschmack, der über das ernste Angesicht der Nothwendigkeit einen Schleier wirft und eine Harmonie zwischen dem Wohlsein und Wohlverhalten *lügt*, wovon sich in der wirklichen Welt keine Spuren zeigen! Nicht in der Unwissenheit der uns umlagernden Gefahren, nur in der *Bekanntschaft* mit denselben ist Heil für uns. Zu dieser Bekanntschaft nun verhilft uns das furchtbar herrliche Schauspiel der alles zerstörenden und wieder erschaffenden und wieder zerstörenden Veränderung, des bald langsam untergrabenden, bald schnell überfallenden Verderbens, verhelfen uns die pathetischen Gemälde der mit dem Schicksal ringenden Menschheit, der betrogenen Sicherheit, der triumphierenden Ungerechtigkeit und der unterliegenden Unschuld welche die tragische Kunst nachahmend vor unsere Augen bringt.

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FRIDAY, JUNE 12, from 10.30 A.M. to 12.30.

C. 4. German.

II.

1. Translate into German:—

So saying Freyja set off, as I told you, to Alfheim, to ask her brother to give her a garland of flowers at least. But she could not find Frey anywhere, and she wandered away from Alfheim to the cavern of the four dwarfs. 'Where am I?' said Freyja to herself, as she passed between the high walls of rock. 'Why, this must be Svartheim; and yet it is not unpleasant, nor quite dark here, though the sun is not shining.'

2. What cases or prepositions are used after the following adjectives:—mächtig, zufrieden, angenehm, bedürftig, bekannt? Illustrate by examples.

3. Explain exactly the force of the 'imperfect' and 'perfect' tenses in German, illustrating your remarks by the following instances:—

(*a*) Ich sah ihn gestern.

(*b*) Ich habe ihn nie gesehen.

(*c*) Ich habe ihn gestern gesehen.

4. What are the various meanings of the prefixes er-, ver-, zer-, empor-, ein-? Give one or two examples of each meaning.

5. Translate into German:—

(*a*) I have had a coat made for me.

(*b*) I could have done better.

(*c*) You should have done better.

(*d*) Smoking is not allowed in this compartment.

(*e*) He is said to be rich.

6. Give the imperfect and past participle of the following verbs:—bewegen, bringen, graben, laufen, weisen.

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7. Translate into German :—

It would be interesting to discover by what gifts and what employment of them Schiller reached the eminence on which we now see him; to follow the steps of his intellectual and moral culture; to gather from his life and works some picture of himself. It is worth enquiring whether he, who could represent noble actions so well, did himself act nobly; how those powers of intellect, which in philosophy and art achieved so much, applied themselves to everyday life; how the generous ardour which delights us in his poetry, displayed itself in the common intercourse between man and man. It would at once instruct and gratify us if we could understand him thoroughly, could see as he saw, and feel as he felt.

THURSDAY, JUNE 11, from 2 to 4.30 P.M.

D. Mathematics.

Algebra.

[N. B. No credit will be given for any answer, the full working of which is not shewn.]

1. If $a = 1$, $b = \frac{1}{2}$, $c = \frac{1}{5}$, find the value of

$$\frac{b^{-3}+c^{-3}-\dfrac{1}{ab^2}}{c^{-2}+a^{-2}-\dfrac{1}{bc}} - a^{-1}b^{-\frac{1}{2}}c^{-\frac{1}{2}}\left\{\frac{bc}{a^2}+\frac{a^2c}{b^3}+1\right\}^{\frac{1}{3}}.$$

2. Find the G. C. M. and also the L. C. M. of

$$64x^3-24x+9 \text{ and } 64x^3-96x^2+81.$$

3. Extract the square root of

$$\frac{a^6}{b^6}+\frac{b^6}{a^6}+2\left(\frac{a^4}{b^4}+\frac{b^4}{a^4}\right)+3\left(\frac{a^2}{b^2}+\frac{b^2}{a^2}\right)+4.$$

4. Simplify the fractional expressions :

$$\frac{x-y}{(x+z)(y+z)}+\frac{y-z}{(x+y)(x+z)}-\frac{x-z}{(x+y)(y+z)};$$

and $$\frac{x^3-y^3}{x^2-xy+y^2}\times\frac{x^3+y^3}{x^2+xy+y^2}\div\frac{x^6-y^6}{(x^2+y^2)^2-x^2y^2}.$$

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5. Solve the equations:

$$(1)\quad \left.\begin{aligned} 9x-4y &= 19 \\ -7x-12y &= 295 \end{aligned}\right\};$$

$$(2)\quad 7x^2+\frac{x}{6}=3+\frac{1}{3}x.$$

$$(3)\quad \frac{1}{x-1}\left\{\frac{1}{x-1}-\frac{2}{x^2-1}+1\right\}=\frac{1}{x+1}\left\{\frac{1}{x+1}+\frac{2}{x^2-1}-3\right\}.$$

6. A would take 3 months longer than B would in earning a certain sum of money, and that sum would suffice to pay three men earning at A's rate and two earning at B's for 2 months. How long would A take to earn it all?

7. Express as fractions with rational denominators

$$\frac{1}{\sqrt{5}+\sqrt{2}-1} \quad \text{and} \quad \frac{1}{3^{\frac{1}{2}}+5^{\frac{2}{3}}}.$$

8. Solve the equations:

$$(1)\quad \tfrac{1}{2}\{\sqrt{x+11\tfrac{1}{4}}+\sqrt{x-11\tfrac{1}{4}}\}=11\tfrac{1}{4};$$

$$(2)\quad \left.\begin{aligned} yz &= 57 \\ 2xz-2x^2+13y^2 &= 185 \\ 2x+5y &= z \end{aligned}\right\}.$$

9. Find the sum, and also the product of the n terms

$$1,\ 2^{\frac{1}{3}},\ 2^{\frac{2}{3}},\ 2,\ \ldots,\ 2^{\frac{n-1}{3}}.$$

Also find the number of terms in an arithmetic series of which the first term is a, the fourth b, and the last but one c.

10. If $\frac{x}{a}=\frac{y}{b}=\frac{z}{c}$, prove that each of these fractions is equal to

$$\frac{x^2\sqrt{bc}+y^2\sqrt{ca}+z^2\sqrt{ab}}{a^2\sqrt{yz}+b^2\sqrt{zx}+c^2\sqrt{xy}};$$

and if $\qquad a-x : a+x :: x : a-x,$

prove that $\qquad 3a-x : a-x :: (3a-x)^2 : (a+x)^2.$

11. Prove that

$$\log ab = \log a+\log b;\ \text{and that, if } a^2+b^2=14ab,$$

then $\qquad \log(a+b)-2\log 2=\tfrac{1}{2}(\log a+\log b).$

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12. Find the number of permutations of n things r together.

Prove also, assuming the binomial theorem, that the coefficient of x^{n-1} in the expansion of $(1-x)^{-3}$ is equal to half the number of permutations of $n+1$ things 2 together.

FRIDAY, JUNE 12, from 2 to 4.30 P.M.

D. Mathematics.

Euclid and Conic Sections.

1. If a parallelogram and a triangle be on the same base and between the same parallels, the parallelogram shall be double of the triangle.

Hence prove that the rectangle contained between any side of a triangle and the perpendicular on that side, produced, if necessary, from the opposite angle, is constant.

2. If a straight line be divided into two equal parts and also into two unequal parts, the rectangle contained by the unequal parts, together with the square on the line between the points of section, is equal to the square on half the line.

Show how to divide a given straight line into two parts such that the rectangle contained by them shall be the greatest possible.

3. Under what circumstances are two triangles proved in Euclid to be equal to one another?

4. In obtuse-angled triangles, if a perpendicular be drawn from either of the acute angles to the opposite side produced, the square on the side subtending the obtuse angle is greater than the squares on the sides containing the obtuse angle, by twice the rectangle contained by the side on which, when produced, the perpendicular falls, and the straight line intercepted without the triangle, between the perpendicular and the obtuse angle.

5. Draw a straight line from a given point, either without or in the circumference, which shall touch a given circle.

Show that if the point be without the circumference, two such lines can be drawn.

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6. If from any point without a circle there be drawn two straight lines, one of which cuts the circle, and the other meets it, and if the rectangle contained by the whole line which cuts the circle, and the part of it without the circle, be equal to the square on the line which meets the circle, the line which meets the circle shall touch it.

7. Describe a circle about a given triangle.

Show that if the triangle be obtuse-angled, the centre falls without the triangle, beyond the side opposite the obtuse angle.

8. Equal triangles which have one angle of the one equal to one angle of the other, have their sides about the equal angles reciprocally proportional; and triangles which have one angle of the one equal to one angle of the other, and their sides about the equal angles reciprocally proportional, are equal to one another.

Equal triangles, which have the sides about a pair of angles reciprocally proportional, have those angles equal to one another or together equal to two right angles.

9. The rectangle contained by the diagonals of a quadrilateral figure inscribed in a circle is equal to both the rectangles contained by its opposite sides.

10. From the same point in a given plane, there cannot be two straight lines at right angles to the plane, on the same side of it; and there can be but one perpendicular to a plane from a point without the plane.

11. Draw a pair of tangents to a parabola from an external point.

12. The normal at any point of an ellipse bisects the angle between the focal distances of that point, and the tangent is equally inclined to the focal distances.

13. Any point P of an ellipse, the two foci, and the points of intersection of the tangent and normal at P with the minor axis, lie on a circle.

14. If from any point R in an asymptote of a hyperbola, two ordinates RPN, RDM be drawn to the hyperbola and its conjugate respectively, then the tangents at P and D will be parallel respectively to CD and CP.

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SATURDAY, JUNE 13, from 2 to 4.30 P.M.

D. Mathematics.

I. Trigonometry.

1. Prove that the magnitude of an angle at the centre of a circle varies directly as the length of the arc subtending it, and inversely as the radius of the circle.

If 1·5 is the circular measure of the angle subtended by a certain arc at the centre of a circle of which the radius is 2·5 inches, what will be the radius of a circle at the centre of which an equal arc subtends an angle whose circular measure is 3·75.

2. Prove that:

(1) $\tan\theta = \cot\theta - 2\cot 2\theta$;

(2) $\tan 11^\circ 15' + 2\tan 22^\circ 30' + 4\tan 45^\circ = \cot 11^\circ 15'$;

(3) $\sin m\theta \sin(m+2n)\theta - \sin n\theta \sin(2m+n)\theta$
$= \sin(m+n)\theta \sin(m-n)\theta$.

3. Eliminate θ between the equations:

$$y\cos\theta - x\sin\theta = \sqrt{a^2\sin^2\theta + b^2\cos^2\theta};$$
$$y\sin\theta - x\cos\theta = \sqrt{a^2+b^2}.$$

4. Prove that in any triangle ABC

(1) $\cos A + \cos B + \cos C$
$$= 1 + 4\cos\frac{B+C}{2}\cos\frac{C+A}{2}\cos\frac{A+B}{2};$$

(2) $(b-c)\cot\frac{A}{2} + (c-a)\cot\frac{B}{2} + (a-b)\cos\frac{C}{2} = 0.$

5. The lengths of the sides of a triangle are 112·45, 89·72, and 57·83 respectively: find the greatest angle

$\log 1{\cdot}3 = {\cdot}1139434$, $\log 1{\cdot}755 = {\cdot}2442771$,
$\log 8{\cdot}972 = {\cdot}9528893$, $\log 5{\cdot}783 = {\cdot}7621532$;
$L\cos 48^\circ 27' 50'' = 9{\cdot}8215733$, diff. for $10'' = 237$.

6. If Δ is the area of a triangle ABC, and R the radius of the circumscribed circle; prove that

$$\frac{\Delta}{R} = \tfrac{1}{2}(a\cos A + b\cos B + c\cos C).$$

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2. Mensuration and Surveying.

7. *ABCDEF* is a regular hexagon, inscribed in a circle of which the radius is 10 inches; segments are cut off by *AF*, *CD*; find the area of the remaining portion of the circle.

$$(\pi = 3{\cdot}1416, \quad \sqrt{3} = 1{\cdot}7320.)$$

8. *ABCD*, the end of a square prism, measures 1·25 in. each way; in the edges of the prism through *B* and *D* points *E* and *F* are taken, each 3 in. from the end; and the top of the prism is taken off by a saw-cut through *A*, *E*, *F*, which cuts the edge through *C* in *G*: find the volume of the piece cut off, and the area of the surface *AEGF*.

9. Plan a field from the following notes, and find its area in acres, roods, and poles:—

	Yards.	
	To B	
	220	
G 63	154	63 H
E 24	98	24 F
C 42	42	42 D
	From A	

3. Algebraic Geometry.

10. Find the equations of the bisectors of the angles between the lines $y = m_1x$, $y = m_2x$.

If $y - 2x + 1 = 0$ is one of the bisectors of the angles between $3y - 7x + 4 = 0$ and another straight line; find the equation of the other line, and that of the other bisector.

11. Find the equation of the common chord of two circles which intersect; and prove that the common chords of three intersecting circles pass through one point.

12. Find the equation of the normal to a parabola in terms of its inclination to the axis; and show that three normals pass through every point in the axis whose distance from the vertex is greater than half the latus rectum, but only one through any point nearer to the vertex.

Draw the parabola $(3x - 4y)^2 = 20a(4x + 3y + 5a)$.

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13. When the co-ordinates of a point on an ellipse are expressed in the form $a \cos \theta$, $b \sin \theta$, what angle does θ represent?

Prove that the vertices of the parallelogram formed by tangents at the extremities of a pair of conjugate diameters lie upon a similar and concentric ellipse, of which the diagonals of the parallelogram are conjugate diameters.

14. Determine the conditions that the general equation of the second degree in two variables may represent an ellipse, hyperbola, or parabola respectively.

Find the equation of the asymptotes, and determine the eccentricity, of the hyperbola

$$5xy + 3x^2 - 10x + 3y - 12 = 0.$$

FRIDAY, JUNE 12, from 5.30 to 7.30 P.M.

D. Mathematics.

I. Mechanics and Mechanism.

1. If three forces in equilibrium are perpendicular respectively to the sides of a triangle they must be proportional to those sides.

Two strings have their upper ends fixed at two points in the same horizontal line and their lower ends fastened to a weight which hangs freely; and it is observed that their tensions are inversely as their lengths. Prove that they must be either at right angles or equal.

2. A ladder of weight W rests at an inclination of 45° to the horizon with its lower end against a fixed obstacle on the ground and its upper end against a smooth vertical wall. Find the pressures at the two ends and the tangent of the angle which that at the lower makes with the horizon.

3. The centres of gravity of a number of weights W_1, W_2, W_3,... in one plane being at distances x_1, x_2, x_3,... respectively from a given straight line in their plane, find the distance of the centre of gravity of all the weights from that line.

The sides of a triangle are three straight wires of the same weight but unequal lengths. Find their centre of gravity.

4. Define *mechanical advantage* of a machine.

In a certain system of pulleys of the kind in which there are two blocks and only one cord a weight of 110 lbs. is

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balanced by one of 20, and a weight of 170 lbs. by one of 30. Find the weight of the lower block with the pulleys attached to it, and the whole number of pulleys.

5. Define unit of velocity and unit of acceleration.

Express a velocity of 100 feet a second in terms of a unit velocity of a mile an hour.

If an acceleration be denoted by 32·2 when the units of space and time are a foot and a second, what will be its numerical value when the units are a mile and an hour.

6. Prove that a particle moving under an acceleration f for a time t from rest describes a space $\frac{1}{2}ft^2$.

In the car of a rising balloon it is noticed that a spring weighing machine which when at rest showed the aeronaut's weight to be 10 stone makes it appear to be 16 stone. Find, assuming that the balloon's upward acceleration is constant, how far it rises in the first 10 seconds.

7. A heavy particle projected in a direction inclined to the vertical and moving freely will describe a parabola.

Two particles are projected at the same time from the same point and in the same direction. Prove that the distance between them at any subsequent time is proportional to the time which has elapsed since the moment of projection.

8. Given the velocities and directions before oblique impact of two imperfectly elastic balls, determine their motion immediately after the impact, assuming the known facts as to direct impact.

A ball impinges on another ball at rest, the elasticity being perfect. The angle between the line of motion before impact and the line of impact is 45°; and after impact the velocities of the two balls are equal. Compare their masses.

2. Hydrostatics.

9. Describe Bramah's press, and explain the principle of its action.

A bucket the area of whose top is a square foot, connected by an opening in its side with a long vertical tube open at the top, is filled with water and then closed accurately by a lid of weight W. Find how much water must now be poured into the tube, whose section is a square inch, in order to raise the lid of the bucket.

(N.B. A cubic foot of water weighs 1000 ounces.)

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10. Define *the whole pressure* and *the resultant pressure* of a fluid on a surface.

Find the vertical angle of a conical vessel such that when it is just filled with water, and turned with its vertex upwards, the whole pressure on its curved surface shall be to that on its base as $2\sqrt{2} : 3$.

11. How are the pressure, density, and temperature of an elastic fluid connected?

A cylindrical diving bell 10 feet high has been lowered till its top is a foot below the surface of a lake; and the water has risen in it to a height of 2 feet. Find the height at which the column stands in a water barometer.

THURSDAY, JUNE 11, from 5.30 to 7.30 P.M.

E. 1. Physics.

[N. B. No Candidate will pass in this subject who does not shew a fair knowledge of (*a*) and of either (*b*) or (*c*). Any Candidate who attempts any part of (*b*) will not obtain credit for any work he may do in (*c*).

All the calculations are to be given at length, and figures should be drawn of the apparatus referred to.]

(*a*)

1. State the 'Parallelogram of Forces.'

Two equal forces act upon a point, the angle between their lines of action being 60°. Shew that if one of the forces be reversed in direction the resultant will be decreased in the ratio of 1 to $\sqrt{3}$.

2. What is the 'centre of gravity' of a body?

A uniform bar of length 10 in. and mass 10 lbs. is supported at a point 2 in. from its centre by a string which can just sustain a tension equal to the weight of 40 lbs. Find the greatest weights that can be suspended from the ends of the bar that it may rest in a horizontal position.

3. Explain the terms—*force*, *mass*, *weight*, *work*, *momentum*.

4. A heavy particle is projected vertically upwards and after 3 seconds its velocity is found to be 160 feet per second. Find how high it will rise, and the time that will elapse before it again reaches the ground.

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5. Describe some method of determining the density of a solid lighter than water.

6. Describe some good form of barometer, and indicate the corrections that must be applied to the observed reading.

(*b*)

1. Explain what is meant by 'magnetic induction.'

The north pole of a powerful magnet is brought very near the north pole of a magnetic needle and is found to attract it. Explain this.

2. Describe the construction and mode of action of the gold-leaf electroscope.

In what ways may the *sensibility* of the instrument be increased?

3. Explain the action of the air condenser.

What effect is produced by interposing a sheet of glass between the plates of the condenser?

4. Describe some instrument used for detecting the presence of a feeble current of electricity.

5. What is a *constant* battery?

Explain the action of a Daniell's cell.

6. How did Ampère investigate the mutual action of currents upon one another?

(*c*)

1. Distinguish between *absolute expansion* and *apparent expansion* of a liquid.

A weight thermometer when filled with mercury at 0° C. is found to contain 203·1 gms. On heating to 100° C., 3·1 gms. are expelled. Find the coefficient of cubical expansion of the glass of which the thermometer is made.

[Coefficient of absolute expansion of mercury = ·000181.]

2. Explain how the maximum tension of aqueous vapour at different temperatures may be determined by observations on the boiling-point of water.

3. What is the *dew point*?

How is the hygrometric state of the atmosphere determined by means of the *wet bulb hygrometer*?

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4. Describe some method of comparing the thermal conductivities of metals, and mention the sources of error to which it is liable.

5. Define *specific heat, latent heat.*
How would you measure the specific heat of a liquid?

6. Discuss the relation between the absorptive and emissive powers of a solid for radiant energy. Describe briefly any experiments bearing on the subject.

WEDNESDAY, JUNE 10, from 5.30 to 7.30 P.M.

E. 2. Chemistry.

1. How may hydrochloric acid gas be prepared? Given a volume of this gas, how would you show that it contained half its volume of hydrogen?

2. Give a method for the preparation of ozone. In what manner was it shown to be *contracted* oxygen? What is the action of ozone upon (1) solution of potassium iodide, (2) metallic mercury?

3. How would you convert a specimen of iodine into (1) hydriodic acid, (2) potassium iodide? What are the tests for a soluble iodide which distinguish it clearly from a bromide?

4. Explain the preparation of metallic sodium. What metals are prepared by using it as a reducing agent, and from what salts are such metals obtainable?

5. What volume of nitrogen at 0°C can be obtained by the action of 3·36 litres of chlorine on excess of ammonia? (1 litre of hydrogen weighs 0·0896 gram.)

6. What is the composition of bone-ash, and by what series of operations is elementary phosphorus obtained from it?

7. Describe carefully the mode of conducting the analysis of air by exploding it with hydrogen; and show how to calculate its composition from the results of explosion.

8. Explain what is meant by the 'atomic weight' of an element, and by the 'molecular weight' of a compound. If the weight of the molecule of water is 18, what is the density of water vapour compared with hydrogen at the same temperature and pressure?

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MONDAY, JUNE 8, from 11 A.M. to 1 P.M.

E. 2. **Chemistry.**

(*Practical Examination.*)

The tubes or envelopes marked I. II. III. IV contain single substances consisting of one metallic, and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Calcium Oxalate. II. Black Antimony Sulphide. III. Manganese Carbonate. IV. Barium Chromate.

SATURDAY, JUNE 13, from 9 to 11 A.M.

E. 3 (*a*). **Botany.**

[*Question* 1 *to be taken by all candidates, and one question only from each of the groups* **A, B, C, D** *to be attempted.*]

(Illustrate your answers by drawings.)

1. Describe in concise and (so far as possible) technical terms the specimens marked *A* and *B*.

A.

2. Write a short account of the life-history of a Fern.

3. Write a short account of the life-history of any Alga.

B.

4. Give a physiological explanation of the withering of a flower when plucked. In what ways may the progress of withering be delayed?

5. Describe the process of carbon-assimilation. What are the chief visible products in the plant of this process?

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C.

6. Describe the bulb of a Lily and of an Onion. How does a bulb differ from the corm of an Autumn Crocus? To what type of member are the bulb and corm referable? Of what functional importance are these special forms?

7. What is cambium? What positions does it occupy in the stem of a dicotyledonous plant exhibiting secondary growth in thickness? What are its products in these positions?

D.

8. What is a placenta? Describe its structure. What positions may it occupy? What is its function?

9. What is epidermis? Describe its structure. What appendages may it bear? Describe them.

SATURDAY, JUNE 13, from 9 to 11 A.M.

E. 3 (*b*). Zoology.

[Candidates are recommended to answer at least two questions from each division of the Paper, and not to attempt more than five in all.]

1. Describe the structure, habits, and modes of reproduction of the common Hydra.

2. What are the main differences between the Vertebrates and the other animal sub-kingdoms? State what you know of the lowest members of the former group.

3. What are the points of difference between the course of the blood in the circulation of a Bird, a Reptile, and a Fish? Enumerate the chambers and valves of the Mammalian heart.

4. Give shortly the life-history of a Tape-worm, and of any winged Insect.

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5. Describe the process of digestion in Man, giving a short account of the alimentary tract with the various digestive secretions, and the successive modifications undergone by the food in its onward passage.

6. What are cilia? What functions do they perform, and in what situations are they found? Do you know of any group of animals which does not possess them?

7. By what means is the temperature of the body regulated in a warm-blooded animal?

8. Enumerate the Cranial Nerves, and state which of them are concerned in the senses of Sight, Smell, Hearing, and Taste.

SATURDAY, JUNE 13, from 9 to 11 A.M.

E. 3. (*c*) Geology and Mineralogy.

1. Describe the mineral structure of granite.

2. What is meant by chemically-formed aqueous rocks? Give instances.

3. In what various ways may springs be produced?

4. Describe the meaning of the terms conformable and unconformable. Illustrate your answer by drawings.

5. Classify the Tertiary rocks as completely as possible.

6. How can strata of freshwater origin be distinguished from those laid down in the sea?

7. Describe the vegetation of the coal-measures.

8. What is meant by 'slaty cleavage'? How is it caused?

9. Of what formations are the following fossils characteristic? What are their zoological affinities?

Micraster cor-anguinum.	Mastodon arvernensis.
Atrypa reticularis.	Paradoxides Davidis.
Ammonites Jason.	Cardita planicosta.

10. Name and describe the rocks, minerals (A, B, C, D), and fossils (E, F, H, I), giving the chemical composition of the minerals, the mineral constituents of the rocks, and the geological age of the fossils, with some account of their position in the animal kingdom.

The specimens were:—A. Marble. B. Fine Sandstone. C. Syenite. D. Flint. E. Ammonites Duncani. F. Echinobrissus scutatus. H. Terebratula digona. I. Isastrea explanata.

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ONE HOUR AND A HALF ALLOWED.

F. 1. Drawing from the Solid.

Make a shaded drawing of the objects placed before you.

In this Exercise the Candidate must give careful attention to the gradations of shade on the various surfaces. Any method of shading may be employed, but the modelling should be expressed entirely by gradation in shade only, and not by direction of shading lines. Exaggeration of darkness is particularly to be avoided.

The objects were—a white ewer placed on a rectangular block.

THURSDAY, JUNE 11, from 5.30 to 7.30 P.M.

F. 2. Drawing in Perspective.

[N.B. In this Exercise the ordinary ruled paper is to be used, and not drawing paper.]

Two packing-cases stand in a yard, the corner of the nearest at 18 ft. from the eye, 4 ft. to the right of the line of vision, and 5 ft. within your picture; which is consequently 13 ft. from you. They both measure 4 ft. 6 in. × 3 ft. × 3 ft. They are in contact with each other: the nearer one being touched in the middle of its long side by the other, which is standing on end. Both have their nearest sides at an angle of 45° with the picture-plane. Draw both at ½ inch scale. Height of eye 5 ft. above the ground.

THREE HOURS ALLOWED.

F. 3. Drawing in Colour from a Natural Object.

Fuchsia—not less than two blossoms, bud, and leaf,—in a blue and white mug.

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ONE HOUR AND A HALF ALLOWED.

F. 4. **Drawing from Memory.**

Make a drawing from memory of a sofa-couch with scroll or volute end.

THURSDAY, JUNE 11, from 5.30 to 7.30 P.M.

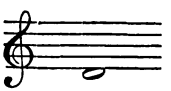
G. **Music.**

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music paper.]

1. What is meant by Related Scales? State the nearest related scales to E♭, B and F Major.

2. Explain what is meant by (1) a Major Diatonic Scale, and (2) a Chromatic Scale. Write an example of each, on A♭.

3. Write three successive major thirds (upwards) beginning on—



4. Explain the Chord of (1) the Dominant Seventh, and (2) that of the Dominant Minor Ninth. Why are they so called?

5. Write the Chord of the Dominant Minor Ninth of each of the following *keys*,—E♭, B, A♭.

6. Write the melody of "God save the Queen."

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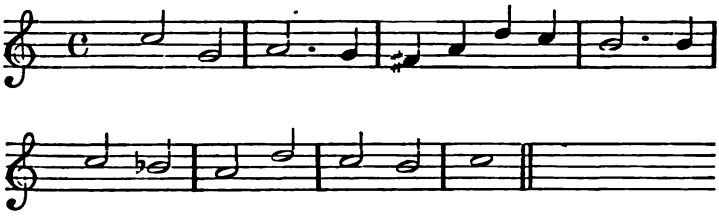
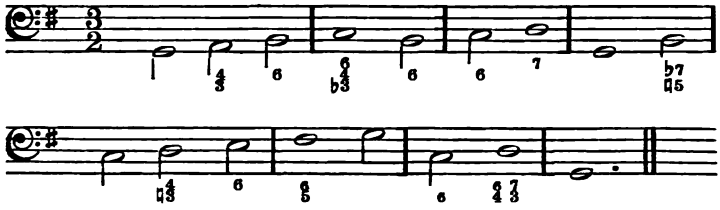
7. Add a *bass* part to the following melody :—



8. Add *three* parts to the following bass, in *open* score, employing the proper Clefs—



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UNIVERSITY OF OXFORD

LOCAL EXAMINATIONS.

PAPERS OF THE EXAMINATION

HELD IN JULY 1885,

WITH

LISTS OF THE DELEGATES AND THE EXAMINERS
AND THE REGULATIONS AND NOTICES,
PREFIXED.

OXFORD:
PRINTED FOR THE DELEGACY
AT THE CLARENDON PRESS:
AND SOLD BY JAMES PARKER AND CO., OXFORD,
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THE STATUTE

AS APPROVED BY CONVOCATION, MAY 8, 1883,

AND

AMENDED BY CONVOCATION, APRIL 28, 1885.

Sectio IV. *Of the Delegates of Local Examinations.*

§ 1. *Of the number of the Delegates and of the Report to be made to Convocation.*

1. For the purposes of this Statute there shall be a Delegacy consisting of the Vice-Chancellor and Proctors and eighteen Members of Convocation elected as follows, namely, six by the Hebdomadal Council from its own number, six by the Congregation of the University, and six by the Vice-Chancellor and Proctors, each holding office for six years and re-eligible. Of the eighteen elected Members three in each section shall vacate office immediately after each triennial election to the Hebdomadal Council. Vacancies at any time before the expiration of the proper period shall be supplied only to the end of such period.

2. The Delegates shall make a report of their proceedings every year to Convocation.

§ 2. *Of the Local Examinations.*

1. There shall be two Examinations of persons who are not members of the University, to be held once at least in every year, which shall be called respectively the Senior and the Junior Examination. No person shall be admitted to the Junior Examination who on the first day of July in the year in which the Examination is held shall have attained the age of sixteen years. The Senior Examination shall be open without limit of age.

2. The Delegates shall have power to determine the date, place, subjects, and mode of Examination, and to grant certificates to those Candidates who shall have satisfied the Examiners. The title

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of Associate of Arts shall be given to those persons who shall have passed the Senior Examination and shall not have attained the age of nineteen years on the first day of July in the year in which the Examination is held. Candidates who have exceeded this age shall not have their names placed in any List of Honours.

3. Every Candidate shall be examined in Religious Knowledge, but this provision shall not apply to any Candidate who, being of full age, shall object to such examination, nor to any Candidate under full age whose parent or guardian shall make such objection.

4. The Delegates shall have power to grant to any Candidate in the Senior Examination who shall have satisfied the Examiners a certificate that he has shown sufficient merit to be excused from Responsions, provided that he has shown such proficiency in Latin, in Greek, and in the elements of Mathematics as would have enabled him if he had offered himself to be examined in Responsions to satisfy the Masters of the Schools in each of those subjects.

5. The names of the Examiners appointed by the Delegates to conduct the Examinations shall be submitted to Convocation for approval. If any Examiner so approved die, resign, or be deposed from his office, his place shall be supplied by another person nominated by the Delegates and approved by the Vice-Chancellor and Proctors.

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THE DELEGATES.

Official.	The Vice-Chancellor, The Senior Proctor, The Junior Proctor.
Members of the Hebdomadal Council.	Rev. H. D. Harper, D.D., Principal of Jesus College. Rev. J. R. Magrath, D.D., Provost of Queen's College. H. F. Pelham, M.A., Fellow and Tutor of Exeter College. Rev. W. Ince, D.D., Canon of Christ Church, Regius Professor of Divinity. Rev. B. Price, M.A., Fellow and late Tutor of Pembroke College, Sedleian Professor of Natural Philosophy. Rev. J. R. King, M.A., Fellow and Tutor of Oriel College.
Elected by Congregation.	Rev. J. Griffiths, D.D., Wadham College, Keeper of the Archives. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. E. Chapman, Esq., M.A., Fellow and Tutor of Magdalen College. Rev. G. Rawlinson, M.A., late Fellow and Tutor of Exeter College, Camden Professor of Ancient History. J. E. T. Rogers, Esq., M.A., Worcester College. E. B. Poulton, M.A., Jesus College, Lecturer of Keble College.
Nominated by the Vice-Chancellor and Proctors.	Rev. E. Moore, D.D., Principal of St. Edmund Hall. A. Robinson, Esq., M.A., Fellow and Lecturer of New College. Rev. J. F. Bright, D.D., Master of University College. Rev. J. Percival, M.A., President of Trinity College. Rev. H. B. George, M.A., Fellow and Tutor of New College. A. H. D. Acland, M.A., Student of Christ Church

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Oxford Local Examinations.

REGULATIONS

AND

TIME TABLE

FOR THE YEAR

1885.

The Examinations will be held in June at Bath (Boys), Bristol (Girls), Crosby (Boys), Crystal Palace (Girls), Hilton (Natal), Liverpool, Oxford, Preston (Boys), Streatham Hill, Warwick, and Watford.

The Examinations will be held in July at Bath (Girls), Bedford High School for Girls, Bedford French Protestant College (Girls), Berkhamsted, Birmingham, Birmingham (Five Ways) (Boys), Boston (Boys), Brighton, Bristol Grammar School (Boys), Cheltenham, Coventry (Boys), Downside (Boys), Kingsbridge (Boys), Leicester, Lincoln, Liverpool, Llandudno, London, Lytham, Manchester, Milton Mount (Girls), Nottingham, Oswestry, Oxford, Penrith, Peterborough, Portsmouth (Boys), Preston, Ramsgate, Reigate, Rotherham (Boys), Rugby, St. Helens, Salisbury, Southampton, Southwark (Boys), Stroud (Brounshill Court) (Girls), Swansea, Swansea Grammar School (Boys), Taunton, Thame, Truro, Warrington (Boys).

Both Boys and Girls will be examined at all centres as to which it is not otherwise stated.

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OXFORD LOCAL EXAMINATIONS.

REGULATIONS FOR THE YEAR 1885.

Two Examinations will be held in the year 1885, commencing on Monday, June 8, and Monday, July 13, respectively.

The Examinations at each Centre will be held at either of these times or both, as the Local Committee may desire. Notice of the time or times at which it is desired that the Examinations should be held must be given to the Delegacy before Feb. 1st, 1885, and the Local Committee must guarantee a payment of £25 for each Examination held at the Centre, in case the Fees paid by the Candidates at each Examination so held fall below that sum. No person may be examined twice in the same year as a Senior or as a Junior Candidate.

EXAMINATION OF JUNIOR CANDIDATES.

(*For Certificates.*)

Any person of either sex born on or after July 1, 1869, may be received as a Candidate. No one born before that day will be received*.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **Reading aloud** a passage from some English author.
2. **Writing from Dictation.**
3. **English Grammar and Composition.** Passages will be set for parsing, paraphrase, and explanation. Candidates will be required also to write a short English Composition.
4. **Arithmetic.** Numeration, the first Four Rules, simple and compound, Reduction, Vulgar and Decimal Fractions, and the Single Rule of Three.

N.B. The quality of the handwriting and the spelling will be taken into account.

* Persons who intend to become Medical Students can be admitted above the age of 16, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the General Medical Council, or other the proper authority for the time being, of their success.

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PART II.

The Examination will comprise the following subjects:—
1. **Religious Knowledge.** 2. **English.** 3. **Latin.** 4. **Greek.** 5. **French.** 6. **German.** 7. **Mathematics.** 8. **Mechanics and Mechanism.** 9. **Chemistry.**

Every Candidate will be required to satisfy the Examiners in three at least of these subjects. No Candidate will be examined in more than six. All Candidates must be examined in at least one of the divisions of Religious Knowledge, unless their Parents or Guardians object to this part of the Examination.

1. **Religious Knowledge.** (*a*) The First Book of Samuel and Ruth. (*b*) The Gospel according to St. Luke. (*c*) The Acts xiii–xxviii. (*d*) The Catechism.

Opportunity will be given for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

2. **English.** (*a*) The Outlines of Greek History from 510–404 B.C., with special questions on the Persian War, and the Outlines of Roman History from 509–242 B.C., with special questions on the First Punic War. (*b*) The Outlines of English History from the Norman Conquest to the Battle of Waterloo, with special questions on the period from 1553–1588. (*c*) Shakspeare's "Tempest*". (*d*) Physical, Political, and Commercial Geography. An Outline Map of one of the following countries will also be given to be filled up, viz. England and Wales, Scotland, Germany, or South America.

   No Candidate will pass in **English** who does not satisfy the Examiners in two of the four divisions (*a*), (*b*), (*c*), (*d*). No Candidate will be examined in more than three of them, or be allowed to take (*a*) and (*b*) together.

3. **Latin.** Passages will be given from Caesar, Bell. Gall. I, II*, and from Virgil (Aen. XII*) for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

   An easy passage from some other Latin author will be set for translation into English. A few easy English sentences to illustrate common Latin constructions, and a short passage from some English writer, will be given for translation into Latin.

---

* Sophocles, Ajax, price 2*s.*; Caesar, Gallic War, price 4*s.* 6*d.*; Virgil, price 10*s.* 6*d.* (or separately, Text 4*s.* 6*d.*, Notes 6*s.*); Homer, Od. I–XII., price 4*s.* 6*d.*; Xenophon, Anabasis, Book II., price 2*s.*; Shakspeare's Tempest, price 1*s.* 6*d.*; Burke's Thoughts on the Present Discontents, price 4*s.* 6*d.*; Molière's Les Fourberies de Scapin, price 1*s.* 6*d.*; Schiller's Historische Skizzen, price 2*s.* 6*d.* (each with Introduction and Notes); are published in the Clarendon Press Series; and may be obtained of Mr. H. Frowde, Oxford University Press Warehouse, Amen Corner, London; and of all booksellers.

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4. **Greek.** Passages will be given from Xenophon Anabasis II*, and from Homer Od. IX* for translation into English, with grammatical and general questions. Candidates may take either of the two authors, but no Candidate will be examined in both.

An easy passage from some other Greek author will be set for translation into English.

5. **French.** A passage will be given from Molière's 'Les Fourberies de Scapin"* for translation into English with grammatical and general questions. A passage from a French Newspaper will be set for translation into English, and English sentences for translation into French.

6. **German.** A passage will be given from Schiller's "Historische Skizzen"* for translation into English, with grammatical and general questions. A passage from a German Newspaper will be set for translation into English, and English sentences for translation into German.

7. **Mathematics.** No Candidate will pass in this subject who does not shew a fair knowledge of Euclid, Books I and II, and of Algebra to Simple Equations including Addition, Subtraction, Multiplication, Division, Greatest Common Measure, Least Common Multiple, Fractions, Extraction of Square Root, and Simple Equations containing one or two unknown quantities and problems producing such equations.

Questions will also be set in the following subjects: (1) Euclid III, IV, VI; (2) Quadratic Equations, Progressions, and Proportion; (3) Plane Trigonometry, including Solution of Triangles, and the use of Logarithms; (4) Mensuration. No credit will be given for a slight knowledge of any of these subjects.

The answers should be illustrated by diagrams, where these can be introduced.

*** Euclid's axioms will be required, and no proof of any proposition will be admitted which assumes the proof of anything not proved in preceding propositions of Euclid.

8. **Mechanics and Mechanism.** The Questions will be of an elementary character, extending, in Statics, to the Composition and Resolution of Forces, the determination of the Centre of Gravity in simple cases, and the Mechanical Powers; in Dynamics, to Impact and Collision, the Motion of Falling Bodies, and Attwood's Machine; in Hydrostatics, to the Pressure of Fluids, and the ordinary Hydrostatical and Pneumatical Instruments.

The answers should be illustrated by diagrams, where these can be introduced.

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* See note on p. 3.

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9. **Chemistry,** including the elementary facts of Chemistry, as illustrated by the following elements and their combinations:—

Oxygen	Carbon	Sulphur	Sodium
Hydrogen	Chlorine	Phosphorus	Calcium
Nitrogen	Iodine	Potassium	Iron.

There will also be a practical examination in the analysis of simple salts (consisting of one acid and one base). Candidates must satisfy the Examiners in the practical examination in order to pass in this subject.

Candidates may also offer themselves for examination in

1. *a.* Drawing from the Flat.
   b. Drawing from the Solid, with light and shade.
2. Music. Questions will be set on Notation, Intervals, Scales, Time, and Rhythm, Signs and Marks of Expression, the Common Chord and its inversions, the Dominant Seventh and its inversions. A short and simple figured bass may be given to be harmonized in accordance with elementary rules.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions; those in the First and Second Divisions will be placed in order of merit; those in the Third Division in numerical order under the several Centres.

Certificates will be issued to the successful Candidates, specifying the subjects in which they satisfied the Examiners, and the Division in which their names are placed.

Lists will be published of the Candidates who distinguish themselves in each of the subjects from 1 to 9 inclusive, provided that they also obtain Certificates. The names will be arranged in order of merit.

EXAMINATION OF SENIOR CANDIDATES.

(*For the Title of Associate in Arts.*)

Any person of either sex born on or after July 1, 1867, may be received as a Candidate. No one born before that day will be received*.

PART I.

Every Candidate will be required to satisfy the Examiners in the following Preliminary subjects:—

1. **English Grammar, Analysis, and Composition.**
2. **Arithmetic.**

N.B. The quality of the handwriting and the spelling will be taken into account.

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* Persons who intend to become Candidates for the Degree of Bachelor of Music or Medical Students can be admitted above the age of 18, but they will neither be placed in the Class List nor receive the usual Certificate. The Delegates will inform the Professor of Music, or the General Medical Council, or other the proper authority for the time being, of the success of such Candidates.

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Part II.

The Examination will comprise the following Sections:—

A. **Religious Knowledge.** B. **English.** C. **Languages.** D. **Mathematics.** E. **Natural Science.** F. **Drawing.** G. **Music.**

Every Candidate will be required to satisfy the Examiners in two at least of the Sections A, B, C, D, E, but if both A and B are offered they will also be required to satisfy the Examiners in either C, D, or E. No Candidate will be examined in more than five of the Sections A, B, C, D, E, F, G.* All Candidates must be examined in one at least of the divisions of Religious Knowledge, unless their parents or guardians object to this part of the Examination.

Section A.—Religious Knowledge.

(1) The First Book of Samuel and Ruth; (2) The Gospel according to St. Luke; (3) The Acts, xiii–xxviii; (4) The Second Epistle to the Corinthians; (5) The Catechism, the Morning and Evening Services, and the Litany, and the outlines of the History of the Book of Common Prayer.

Opportunity will be given for shewing knowledge of the Greek Text of the New Testament.

No Candidate will pass in Religious Knowledge who does not satisfy the Examiners in three of these divisions, though excellence in any one of them will be allowed to compensate for some deficiency in other divisions. No Candidate will be examined in more than three.

Section B.—English.

1. The Outlines of **Greek History** from 510–404 B.C., with special questions on the Persian War, and the Outlines of **Roman History** from 509–242 B.C., with special questions on the First Punic War.
2. **English History** from 1553–1603, and the outlines of the History of **English Literature** during the same period, together with the general outlines of English History from the Norman Conquest to the Battle of Waterloo.
3. **Shakspeare's** "Tempest†", and **Burke's** "Thoughts on the Present Discontents†."
4. **Physical, Political, and Commercial Geography** An Outline Map of one of the following countries will also be given to be filled up: viz. England and Wales, Scotland, Germany, India, or South America.
5. The elements of **Political Economy.**

No Candidate will pass in this Section who does not shew a fair knowledge of two of these five divisions. No Candidate will be examined in more than three of them, or be allowed to offer 1 and 2, or 4 and 5 together.

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* Candidates may not offer both French and Italian; or both Music and Physics; or both Greek and Botany, Zoology or Geology. † See note, page 3.

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SECTION C.—LANGUAGES.

1. **Latin.** 2. **Greek.** 3. **French.** 4. **German.** 5. **Italian.**

No Candidate will pass in this Section who does not shew a fair knowledge of one of these languages. No Candidate will be examined in more than four of them. French and Italian may not be taken together.

Candidates who offer Latin will be examined in Livy, Book XXII, and Virgil Aen. XII*, and those who offer Greek in Xen. Anab. I, II*, and Sophocles, Ajax *. In other languages no books are prescribed.

In each of the five languages questions on grammar will be set, and passages will be given both from unprepared books for translation into English, and of English for translation into Latin, French, German, or Italian, as the case may be.

SECTION D.—MATHEMATICS.

Pure Mathematics to **Algebraical Geometry** inclusive, **Mechanics** (including Mechanism), and **Hydrostatics.**

No Candidate will pass in this Section who does not shew a fair knowledge of Four Books of Euclid, and of Algebra to the end of Quadratic Equations, including Addition, Subtraction, Multiplication, and Division of Algebraical Quantities (including simple irrational quantities expressed by radical signs or fractional indices), Greatest Common Measure and Least Common Multiple, Fractions, Extraction of Square Root, Simple Equations containing one or two unknown quantities, Quadratic Equations containing one unknown quantity, questions producing such equations, and the simplest properties of Ratio and Proportion. The answers should be illustrated by diagrams, where these can be introduced.

*** Euclid's axioms will be required, and no proof of any proposition will be admitted which assumes the proof of anything not proved in preceding propositions of Euclid.

SECTION E.—NATURAL SCIENCE.

1. **Physics.**

(*a*) The elementary properties of matter in its solid, fluid, and gaseous forms; density, mass, gravity, weight, specific gravity, and inertia; composition of two forces; centre of gravity; pressure of fluids; laws of motion; construction and use of simple mechanical, hydrostatical, and hydraulic machines.

(*b*) Elements of Heat.

(*c*) Elements of Electricity and Magnetism.

No Candidate will pass in this subject who does not shew a fair knowledge of (*a*), and of either (*b*) or (*c*). No Candidate will be examined in (*b*) and (*c*) together. Physics and Music may not be taken together.

2. **Chemistry,** including the facts and general principles of Chemical Science. There will be a practical examination in the elements of Analysis. Candidates must satisfy the Examiners in the practical examination in order to pass in this Subject.

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* See note, page 3.

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3. (*a*) **Botany,** including Elementary Vegetable Physiology and the types of the chief divisions of the Vegetable Kingdom.

(*b*) **Zoology,** including Elementary Animal Physiology and the types of the Animal sub-kingdoms.

(*c*) **Geology and Mineralogy.**

No Candidate may offer more than one of these subjects (*a*), (*b*), or (*c*) No part of (3) may be taken with Greek.

No Candidate will pass in this Section who does not shew a fair knowledge of one at least of the divisions 1, 2, 3. In all cases a practical acquaintance with the subject-matter will be indispensable. The answers should be illustrated by diagrams and drawings, where these can be introduced.

Section F.—Drawing.

1. **Drawing from the solid,** with light and shade.
2. **Drawing in perspective.**
3. **Drawing in colour** from a natural object.
4. **Drawing from memory.**

No Candidate will pass in this Section who does not satisfy the Examiners in Drawing from the Solid.

Section G.—Music.

In addition to a thorough knowledge of the subjects prescribed for Junior Candidates, the Seniors must shew an acquaintance with the chords of the Added Ninth and Minor Ninth and their inversions, and must be able to harmonize a figured bass introducing these chords. They may be called upon to add three parts to a given melody.

Music and Physics may not be taken together.

The results of the Examination held in June and of that held in July will be combined, and the names of all the successful Candidates will be published in one list, arranged in three Divisions, the First and Second Divisions in order of merit, the Third in numerical order under the several centres.

Lists of those who distinguish themselves will also be published for each of the sections A, B, C, D, E, F, G, arranged in two Divisions. The names in each First Division will be placed in order of merit; those in each Second Division alphabetically.

Certificates, signed by the Vice-Chancellor, will be issued to the successful Candidates, conferring the title of Associate in Arts, and specifying the subjects in which they satisfied the Examiners, and the Division or Divisions in which their names are placed.

Those Candidates who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from Responsions, may receive a Certificate from the Delegates to that effect.

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Candidates will be examined in Oxford, and in such other places as the Delegates may appoint. A list of the Local Centres at present appointed will be found on the next page. Girls may be received for Examination in Oxford and at those Centres which are marked with *. Places marked thus † are SPECIAL LOCAL CENTRES, to which no persons who are not members of the particular Schools may be admitted except at the discretion of the School authorities.

An application to have a place appointed as a Centre should come to the Delegates from a Local Committee: such Committee being prepared to guarantee a payment of £25 (in case the Fees paid by the Candidates fall below that sum) and to undertake all those expenses which are occasioned by the Examination being *Local*, that is, by the Candidates being examined at that particular place instead of coming to Oxford for the purpose. Those expenses are mainly the following: the cost of providing suitable rooms for the Examination; the charges incurred by the Superintending Examiner (appointed by the Delegates) in travelling, lodging, and board; postage; carriage of parcels from and to Oxford; and some stationery. Each Committee should appoint a Local Secretary. Applications must be made, and notice of the discontinuance of old Centres must be given, before the 1st of February, 1885.

Girls may be examined at any place where boys are examined, and at such other places as the Delegates may appoint. But in every case the Delegates must first be satisfied, 1. That there is a Local Committee of ladies, who will efficiently superintend the examination of the girls; 2. That such Committee will see that girls who do not live in the place find suitable lodging and accommodation; 3. That the examination room for the girls is quite separate from that intended for the boys.

The Delegates are prepared to undertake the Examination of Schools. Applications should be made to the Secretary not less than two months before the day on which it is desired that the Examination should commence.

The Local Examinations may, if desired, be combined with a School Examination held under the direction of the Delegacy, and any School so making use of the Local Examinations may be constituted a Special Local Centre. The Regulations under which combined Local and School Examinations will be held may be obtained from the Secretary to the Delegacy.

Printed Forms, on which Candidates are to make application, will be prepared by the 1st of March, and may be obtained after that date from the **Local Secretaries,** whose names are subjoined; for the June Examination until the 31st of March, and for the July Examination until the 30th of April, *after which dates none will be issued.* The Forms for Junior and Senior Candidates are distinct, and applications should state which Forms are required. For examination *in Oxford* the Forms may be obtained from G. E. Baker, Esq., Clarendon Building, Oxford.

The Forms, duly filled up, must be *returned* to the several Local Secretaries for the June Examination by the 4th of April, and for the July Examination by the 2nd of May. No Candidate's name will be received at any place after those days.

Fees. Every Candidate is required to pay to the University a Fee of 20*s*. At every Centre except Oxford there is also a Local Fee. No Fee can be returned under any circumstances, or be carried to the credit of a Candidate at a subsequent Examination.

N.B. The words "Oxford Local Examinations" should be written on the covers of all letters addressed to the Secretaries.

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LOCAL CENTRES AND SECRETARIES.

*Bath	(*Boys*)	H. D. Skrine, Esq., Guildhall, Bath. F. Ernest Shum, Esq., 3 Union Street, Bath.
	(*Girls*)	Mrs. Jeffery, 9 Norfolk Crescent, Bath.
†*Bedford High School	(*Girls*)	Miss M. Belcher, High School, Bedford.
†*Bedford French Protestant College	(*Girls*)	Madame de Marchot, French Protestant College, Bedford.
†*Berkhamsted		W. H. Fricker, Esq., King Edward VI School, Berkhamsted.
*Birmingham		G. W. Hickman, Esq., 20 A Temple Row, Birmingham.
†Birmingham Five Ways		Rev. E. F. M. MacCarthy, King Edward's School, Five Ways, Birmingham.
Boston		R. W. Millington, Esq., Boston.
*Brighton	(*Boys*)	Barclay Phillips, Esq., 75 Lansdowne Place, Brighton.
	(*Girls*)	Mrs. H. Martin, 5 Powis Square, Brighton.
†Bristol Grammar School	(*Boys*)	R. L. Leighton, Esq., Bristol Grammar School, Bristol.
*Bristol	(*Girls*)	Miss Cocks, High School for Girls, Redland, Bristol.
*Cheltenham	(*Boys*)	J. Style, Esq., Cheltenham Grammar School, Cheltenham.
	(*Girls*)	Mrs. Mugliston, Newick House, Cheltenham. Miss Beale, Ladies' College, Cheltenham.
†Coventry		Rev. W. W. S. Escott, King Henry's School, Coventry.
†Crosby		Rev. S. C. Armour, Merchant Taylors' School, Crosby, Liverpool.
*Crystal Palace	(*Girls*)	Mrs. Robert Hardwicke, School of Art, Science, and Literature, Crystal Palace, S.E.
Downside		Rev. J. A. Howlett, St. Gregory's College, Downside, Bath.
*Hilton, Natal		H. V. Ellis, Esq., Hilton, Natal.
†Kingsbridge		J. H. Square, Esq., Kingsbridge, S. Devon.
*Leicester		Rev. T. N. Philpott, 25 Humberstone Road, Leicester.
*Lincoln		Rev. W. W. Fowler, School House, Lincoln.
*Liverpool	(*Boys*)	E. F. Evans, Esq., Orrell Park, Aintree, Liverpool.
	(*Girls*)	Miss M. Calder, 49 Canning Street, Liverpool.
*Llandudno		W. M. Williams, Esq., The School, Llandudno.
*London	(*Boys*)	H. A. Tilley, Esq., 42 Queen Square, Bloomsbury.
	(*Girls*)	Miss M. E. Drew, 6 Cumberland Terrace, Regent's Park, N.W.
*Lytham	(*Boys*)	E. R. Lightwood, Esq., Pembroke House School, Lytham.
	(*Girls*)	Miss Macdonald, Ladies' High School, Lytham.
*Manchester	(*Boys*)	Rev. T. C. Skeggs, 14 Fitzwarren St., Pendleton, Manchester.
	(*Girls*)	Mrs. Donner, Anson Road, Victoria Park, Manchester.
†*Milton Mount	(*Girls*)	Miss Hadland, Milton Mount School, Gravesend.
*Nottingham		Rev. C. Yeld, University School, Nottingham.
†*Oswestry		O. Owen, Esq., The High School, Oswestry.
*Penrith		W. P. Arnison, Esq., Public Offices, Penrith.
†*Peterborough		Rev. E. J. Cunningham, King's School, Peterborough.
†Portsmouth		Rev. E. P. Grant, The Vicarage, Portsmouth.
†*Preston	(*Boys*)	W. M. Maddox, Esq., Grammar School, Preston. Rev. A. B. Beaver, Grammar School, Preston.
	(*Girls*)	Miss Carter, High School for Girls, Preston.
*Ramsgate		Rev. C. E. Eastgate, 31 Augusta Road, Ramsgate.
*Reigate		F. G. Johnson, Esq., The Grammar School, Reigate.
Rotherham		Rev. H. Heap, Grammar School, Rotherham.
*Rugby	(*Boys*)	H. T. Rhoades, Esq., Clifton Road, Rugby.
	(*Girls*)	Miss Sharp, Horton House, Rugby.
†*St. Helens, The Cowley Schools	(*Boys*)	E. T. Simpson, Esq., The Cowley Schools, St. Helen's.
	(*Girls*)	Miss E. Fyfe, The Cowley Schools, St. Helen's.
*Salisbury	(*Boys*)	Rev. H. J. Morton, The Close, Salisbury.
	(*Girls*)	Miss Fawcett, The Close, Salisbury.
*Southampton	(*Boys*)	Rev. J. L. Carrick, Spring Hill, Southampton.
	(*Girls*)	Mrs. Wilberforce, The Deanery, Southampton.
Southwark		T. J. Beckwith, Esq., St. Olave's Grammar School, Southwark.
*Streatham Hill		B. Hawkins, Esq., St. Anne's School, Streatham Hill, S.W.
†*Stroud, Brounshill Court		Miss Winscom, Brounshill Court, Stroud.
*Swansea	(*Boys*)	C. H. Perkins, Esq., 17 Somerset Place, Swansea.
	(*Girls*)	Mrs. Reid, 2, Glanmer Terrace, Swansea.
†Swansea Grammar School		Rev. J. Young, Grammar School, Swansea.
*Taunton	(*Boys*)	Mr. Reginald Barnicott, Parade, Taunton.
	(*Girls*)	Miss Gibson, The Crescent. Taunton.
*Thame		G. Plummer, Esq., Lord Williams's Grammar School, Thame.
*Truro		Rev. G. L. Church, Chacewater Vicarage, Cornwall.
†Warrington		Rev. E. J. Willcocks, School House, Warrington.
*Warwick		Rev. W. Grundy, King's Grammar School, Warwick.
*Watford		Rev. A. R. Clemens, London Orphan Asylum, Watford.

EXEMPTIONS FROM VARIOUS EXAMINATIONS.

1. **Senior Candidates (Boys)** who shew sufficient merit in translations from Latin and Greek authors, in Grammar, in Latin Prose Composition, and in Mathematics, to be excused from **Responsions**, and **Senior Candidates (Girls)** who shew sufficient merit in two languages and in Mathematics to be excused from the **First Examination for Women**, receive Certificates from the Delegates to that effect.

2. A **Senior** Certificate enables a person to become a Candidate for the degree of **Bachelor of Music** if he passes in (1) Section B, (2) Latin and one of the other Languages in Section C, (3) Euclid and Algebra.

3. Persons who have passed any of the public Examinations of the University of Oxford, among which are the Local Examinations, are excused the Preliminary Examination for **Barristers**.

4. A **Senior** Certificate satisfies the preliminary requirements of the **General Medical Council** and the **Royal College of Surgeons**, if it includes Latin and Mathematics; a **Junior** Certificate if it includes Latin and Mathematics and one of the following:—Greek, French, German, and Mechanics.

5. Persons who have passed the Oxford Local Examinations are excused the Preliminary Examination before entering into Articles of Clerkship with **Solicitors**. The published regulations of the Law Society state no special subjects.

6. Any Certificate qualifies the holder to compete for admission to the **National Training School for Teachers in Schools of Art**, if it includes English and either Latin or a modern foreign language.

SCHOLARSHIPS AND PRIZES.

7. **Senior Candidates (Boys).** The Dyke Exhibition, of not less than £60 a year, tenable for four years at the University of Oxford, open to any boy, born on or after July 1, 1867, who is a native of any of the counties of Somerset, Devon, and Cornwall, or has for three years past been resident in any of such counties, or has for two years past been educated at any of the Schools in the same counties, provided that he is, in the opinion of the Governors, in need of pecuniary help to support him at the University, will be awarded to such Senior Candidate as the Governors shall think most deserving, having regard to the results of the Examination to be held in 1885.

8. **Senior Candidates (Girls).** One Scholarship, value Thirty Guineas a year, entitling the holder to **free instruction at Bedford College, London**, tenable for two years from Michaelmas, 1885, is offered by the Trustees of Mrs. Reid's Fund for the Higher Education of Women to the Candidate who shall obtain the highest place in the First or Second Division.

9. **The Royal Geographical Society** offers **two Medals**, one of silver and one of bronze, to the two **Senior Candidates** (boys or girls) who shall give the best answers in Geography, provided that their papers are of sufficient merit.

10. **Senior and Junior Candidates (Boys).** The following Scholarships will be offered to Candidates who distinguish themselves sufficiently in the Examinations to be held in June and July next:—

(1) **Tonbridge School.** Value £67 a year out of a total for School expenses of £97. Tenable while the boy remains at the School. Open to any boy who shall be under 15 years of age on July 30, 1885, and who shall obtain distinction in Latin, or Greek, or Mathematics.

(2) **Uppingham School.** Value £90, out of a total for School expenses of £110. Tenable for three years. Open to any boy who shall be under 15 years of age on the 13th of July, 1885, and who shall obtain distinction in Classics.

(3) **Wellington College.** The Scholar will be boarded and educated at an annual charge of £10. Tenable while the boy remains at the School. Open to any boy who shall be under 15 years of age on the 13th of July, 1885, and who shall obtain distinction in Greek and Latin, or Mathematics, provided that he be a son of a deceased officer who within 5 years of his death had been either on full or half pay.

The offer will in no case be made (1) to the son of parents in easy circumstances; nor (2) to any boy educated at a school the authorities of which have previously notified to the Delegates that such boy is not a candidate for a Scholarship.

The authorities of the schools which offer Scholarships reserve the right of deciding whether they will accept a candidate whose name is submitted to them.

The continued or extended tenure of any Scholarship is in every case conditional on the Scholar's conduct and progress being satisfactory.

Examination Papers and Annual Reports with Division Lists, 2*s.* each, also the Papers set at the Examination of Women, 2*s.*, and the Report 3*d.*, may be obtained from Messrs. Parker and Co., Oxford, and 6 Southampton Street, Strand, London.

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TIME TABLE FOR 1885.

Monday, *June* 8. „ *July* 13.	*Tuesday*, *June* 9. „ *July* 14.	*Wednesday*, *June* 10. „ *July* 15.	*Thursday*, *June* 11. „ *July* 16.	*Friday*, *June* 12. „ *July* 17.	*Saturday*, *June* 13. „ *July* 18.
11 to 1 Practical Chemistry. } S. J.	9 to 11 *Arithmetic.* S. J. 11 to 1 *English Grammar* and *Composition.* S. J.	9 to 11 Latin (1st Paper). S. 11 to 1 Latin (2nd Paper). S. 9 to 10.30 Latin (1st Paper). J. 10.30 to 12 Latin (2nd Paper). J.	9 to 10.15 French (1st Paper). S. 10.15 to 12.30 French (2nd Paper. S. 9 to 10.15 French (1st Paper). J. 10.15 to 12 French (2nd Paper). J.	9 to 10.30 German (1st Paper). S. 10.30 to 12.30 German (2nd Paper). S. 9 to 10.30 German (1st Paper). J. 10.30 to 12 German (2nd Paper). J.	9 to 11 Botany. Zoology. Geology. } S. *or* 9 to 11 Greek (1st Paper). S. 11 to 1 Greek (2nd Paper). S. 9 to 10.30 Greek (1st Paper). J. 10.30 to 12 Greek (2nd Paper). J.
2 to 3 Old Testament. S. J. 3 to 4 Gospel. S. J. 4 to 5 Acts. S. J.	2 to 4.30 Geography and Map. S. *or* Political Economy. S. 2 to 4 Geography and Map. J.	2 to 4.30 History. S. 2 to 4 History. J. 4 to 4.30 *Dictation.* J.	2 to 4.30 Algebra. S. J.	2 to 4.30 Euclid. S. J.	2 to 4.30 Trigonometry and Mensuration } S. J.
6 to 7 Catechism. J. Prayer Book. S. 7 to 8 Epistle. S.	5.30 to 7.30 Shakspeare. S. J.	5.30 to 7.30 Chemistry. S. J.	5.30 to 7.30 Physics. S. *or* Music. S. J.	5.30 to 7.30 Mechanics. S. J.	

N.B. The letters S. and J. signify Senior and Junior respectively. The times for the exercises in "Drawing" and for "Reading aloud" are subject to the discretion of the Examiner at each place. The times for giving out the Papers at the London and Crystal Palace Centres will be slightly earlier or later, as the case may be, than those stated in this Time Table.

G. E. BAKER,
Secretary to the Delegacy.

OXFORD, May 24, 1884.

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GENERAL NOTICE TO CANDIDATES.

1. **The Examination will commence on Monday, the 13th of July, at 11 a.m.**

2. A Time Table, shewing the hours and subjects of Examination each day, will be sent to every Candidate shortly before the Examination. The same Paper will contain some Directions and Cautions, which Candidates are specially desired to observe.

3. Paper and other writing materials will be provided for the Candidates; but they are expected to bring their own pens.

4. **Candidates in Mathematics,** etc., will be allowed to bring in the usual Mathematical Drawing Instruments; subject however to any limitation which the Examiners may think fit. The usual symbols and abbreviations may be employed in writing Mathematical papers.

5. **Candidates in Drawing** should provide themselves with a Drawing Board measuring about 23 inches by 16, eight Drawing pins, and all other necessary materials, *except paper*, which will be supplied by the University. No instruments of any kind will be allowed, except for the Exercise in Perspective.

6. **Candidates in Chemistry** will receive a Notice, specially addressed to them, containing a list of the Apparatus and of the Re-agents which they are to bring to the Practical Examination.

7. **Candidates in Botany** should bring with them a sharp penknife, two needles mounted in handles, and a magnifying glass.

CENTRES AT WHICH THE EXAMINATIONS WERE HELD IN JULY, 1885.

The Examinations were held in July at the following centres: Bath (Girls), Bedford High School (Girls), Bedford French Protestant College (Girls), Berkhamsted (Boys), Birmingham, Birmingham Five Ways (Boys), Boston, Brighton, Bristol Grammar School (Boys), Cheltenham, Coventry (Boys), Downside (Boys), Kingsbridge (Boys), Leicester, Lincoln, Liverpool, Llandudno (Boys), London, Lytham, Manchester, Milton Mount (Girls), Nottingham, Oswestry, Oxford, Penrith, Peterborough, Portsmouth (Boys), Preston, Ramsgate, Reigate, Rotherham (Boys), Rugby, St. Helen's, Salisbury, Southampton, Southwark (Boys), Stroud (Girls), Swansea, Swansea Grammar School (Boys), Taunton, Thame, Truro, Warrington (Boys). Both Boys and Girls were examined at centres as to which it is not otherwise stated.

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OXFORD LOCAL EXAMINATIONS.

NOTICE TO CANDIDATES IN CHEMISTRY.

For the practical Examination each Candidate is required to provide himself with the necessary re-agents and apparatus.

The following lists, which contain all that is needful according to the usual course of analysis, are intended as a guide to Candidates in making this provision. But each one is at liberty to furnish himself for the Examination with such materials as he has been accustomed to employ.

Re-agents.

Solutions.

Hydrate of Potassium.	Sulphate of Calcium.
Ferrocyanide of Potassium.	Nitrate of Barium.
Carbonate of Sodium.	Sulphate of Magnesium.
Phosphate of Sodium.	Nitrate of Silver.
Bitartrate of Sodium.	Sulphuretted Hydrogen.
Ammonia.	Sulphuric Acid.
Carbonate of Ammonium.	Nitric Acid.
Chloride of Ammonium.	Hydrochloric Acid.
Oxalate of Ammonium.	Acetic Acid.
Sulphide of Ammonium.	Chlorine Water.
Lime Water.	Nitrate of Cobalt.

Solid Substances.

Carbonate of Sodium. Borax. Sulphate of Iron.
Peroxide of Manganese. Bichromate of Potassium. White Starch.

Litmus and Turmeric Papers.

Apparatus.

Three funnels, about $2\frac{1}{2}$ inches diameter.
A dozen test-tubes, about 6 inches long by $\frac{5}{8}$ inch diameter.
Another dozen test-tubes, about 6 inches long by $\frac{7}{8}$ inch diameter.
A packet of cut filters, about $3\frac{3}{4}$ inches diameter.
A stand for test-tubes, to hold 24 tubes.
A glass stirring rod, about 8 inches long.

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A small retort stand to support the funnels.

A spirit lamp, to contain about 3 oz., provided with a wick and with 5 oz. of spirit in a bottle.

A washing bottle, holding about 1 pint, to be filled at the time of the Examination.

Two pieces of platinum foil, about 2 × 1 inch, and two platinum wires, about 3 inches long.

A mouth blowpipe.

Two or three pieces of hard glass tubing, and of charcoal, for blowpipe experiments.

A bent tube, fitted with a cork, for conveying a gas from one test-tube to another.

A pair of tongs to hold the platinum foil.

A penknife or spatula.

A cloth.

A test-tube brush.

The room in which the Examination is to be held will be opened half an hour before the time, for the purpose of allowing Candidates to unpack and arrange their re-agents and apparatus. Distilled water and matches will be provided for them.

N. B. The attention of Candidates is called to the importance of writing out their analytical notes in a proper manner. The Examiner can judge of their knowledge and work only from these notes, and cannot give any one credit for a complete analysis if any steps or important statements are omitted in the description of it. The account of the examination of each substance should be written out before proceeding to the next, so that the actual experimenting and the recording of experiments may be carried on as far as possible together. Candidates are cautioned against the common practice of wasting their limited time in preliminary random experiments with the blowpipe. They should first discover by a systematic analysis what the bases are and then confirm their conclusions by as many special tests as possible including those made by the blowpipe.

G. E. BAKER,

Secretary to the Delegacy.

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OXFORD LOCAL EXAMINATIONS, 1885.

EXAMINERS.

Revising.	Rev. J. R. Magrath, D.D., Provost of Queen's College. Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. W. W. Jackson, M.A., Fellow and Tutor of Exeter College. E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Religious Knowledge.	Rev. E. Barber, M.A., Magdalen College. Rev. R. H. Morris, D.D., Jesus College. Rev. R. W. M. Pope, B.D., Lecturer of Worcester College. J. H. Maude, Esq., M.A., Lecturer and late Fellow of Hertford College.
Preliminary Subjects (except Arithmetic), and English.	Rev. T. Williams, M.A., late Fellow of Jesus College. Rev. H. E. Tweed, M.A., late Fellow of Oriel College. G. E. Thorley, Esq., M.A., Warden of Wadham College. W. C. Sidgwick, Esq., M.A., Oriel College. Rev. C. H. O. Daniel, M.A., Fellow of Worcester College. Rev. G. F. Lovell, B.D., Vice-Principal of St. Edmund Hall. C. N. Jackson, Esq., M.A., Fellow and Tutor of Hertford College. F. S. Pulling, Esq., M.A., Exeter College. A. Hassall, Esq., M.A., Student and Tutor of Christ Church. T. F. Tout, Esq., M.A., Fellow of Pembroke College. C. R. L. Fletcher, Esq., M.A., Fellow of All Souls College, Lecturer of Keble College.
Latin and Greek.	Rev. F. R. Pentreath, D.D., Worcester College. Rev. W. H. Hughes, M.A., Fellow and Tutor of Jesus College. Rev. G. W. Gent, M.A., University College, Tutor of Keble College. A. D. Godley, Esq., M.A., Fellow and Tutor of Magdalen College.
French.	R. A. Ploetz, Esq., M.A., Magdalen College. L. M. Moriarty, Esq., B.A., Magdalen College. Rev. A. C. Clapin, M.A., St. John's College, Cambridge. Mons. A. Manier.
German.	E. A. Sonnenschein, Esq., M.A., University College.
Arithmetic and Mathematics.	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. D. Thomas, M.A., late Fellow of Trinity College. E. B. Elliott, Esq., M.A., Fellow and Tutor of Queen's College. Rev. J. H. Kirkby, M.A., University College. H. T. Gerrans, Esq., M.A., Fellow and Lecturer of Worcester Coll.
Physics.	W. H. Heaton, Esq., M.A., Brasenose College.
Chemistry.	J. Watts, Esq., M.A., Balliol College, Lecturer of Merton College.
Botany.	B. Balfour, Esq., M.A., Fellow of Magdalen College, Sherardian Professor of Botany.
Zoology.	F. A. Dixey, Esq., M.A., Wadham College.
Geology and Mineralogy.	E. B. Poulton, Esq., M.A., Jesus College, Tutor of Keble College.
Drawing.	Rev. R. St. J. Tyrrwhitt, M.A., late Student of Christ Church.
Music.	J. V. Roberts, Esq., D. Mus., Magdalen College.

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SUPERINTENDING EXAMINERS AT THE LOCAL CENTRES.

Bath	Rev. F. Harrison, M.A., late Fellow of Oriel College.
Bedford High School	Rev. J. Copner, M.A., St. Mary Hall.
Bedford French Protestant College.	W. L. Courtney, Esq., M.A., Fellow and Tutor of New College.
Berkhamsted	Rev. W. Tuckwell, M.A., late Fellow of New College.
Birmingham	Rev. R. E. Williams, M.A., late Fellow of Jesus College.
„ Five Ways	Rev. F. H. Curgenven, M.A., late Fellow of Corpus Christi College.
Boston	Rev. A. R. Maddison, M.A., Merton College.
Brighton	E. M. Miller, Esq., M.A., Fellow of Magdalen College.
Bristol	Rev. H. L. Thompson, M.A., late Senior Student and Tutor of Ch. Ch.
Bristol Grammar School	Rev. W. M. Collett, M.A., late Fellow and Tutor of Oriel College.
Cheltenham	Rev. P. G. Medd, M.A., late Fellow and Tutor of University College. Rev. E. Worsley, M.A., late Fellow of Magdalen College.
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Downside	Rev. W. E. Daniel, M.A., Worcester College.
Hilton, Natal	Rev. E. T. Burges, M.A., St. John's College Cambridge.
Kingsbridge	Rev. E. Harris, M.A., Lincoln College.
Leicester	Rev. W. Yates, late Fellow and Tutor of Brasenose College.
Lincoln	Rev. J. M. Barrett, M.A., Pembroke College.
Liverpool	R. T. Tidswell, Esq., M.A., Worcester College. J. Williams, Esq., M.A., B.C.L., Lincoln College.
Llandudno	Rev. H. B. Blogg, M.A., Christ Church.
London	Rev. E. Hill, M.A., late Student and Lecturer of Christ Church. Rev. M. S. A. Walrond, M.A., Balliol College. Rev. F. R. Ellis, M.A., Trinity College.
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Milton Mount	Rev. J. Bond, M.A., St. John's College.
Nottingham	R. L. Abbott, Esq., M.A., Tutor of Non-Collegiate Students.
Oswestry	Rev. A. Short, M.A., late Fellow of New College.
Oxford	Rev. S. C. F. Angel-Smith, M.A., Christ Church.
Penrith	Rev. G. E. Hasell, M.A., Queen's College.
Peterborough	H. W. Just, Esq., M.A., Corpus Christi College.
Portsmouth	Rev. G. S. Ward, M.A., Fellow and Tutor of Hertford College. Rev. G. W. Jeudwine, M.A., late Fellow of Queen's College.
Preston	Rev. C. P. Roberts, M.A., Trinity College. C. E. Bickmore, Esq., M.A., Fellow and late Tutor of New College.
Ramsgate	Rev. J. W. Nutt, M.A., late Fellow of All Souls College.
Reigate	Rev. A. Isham, M.A., late Fellow of All Souls College.
Rotherham	Rev. W. G. Cole, M.A., late Fellow of Trinity College.
Rugby	Rev. J. W. Caldicott, D.D., Jesus College.
St. Helens	A. Hassall, Esq., M.A., Student and Tutor of Christ Church.
Salisbury	Rev. D. Macleane, M.A., Fellow and Lecturer of Pembroke College.
Southampton	Rev. C. Eddy, M.A., late Fellow of Queen's College.
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STREATHAM HILL	Rev. J. Troutbeck, M.A., University College.
STROUD	Rev. T. Williams, M.A., late Fellow of Jesus College.
SWANSEA	Rev. G. H. Jenner, M.A., Pembroke College.
SWANSEA GRAMMAR SCHOOL	Rev. R. Broughton, M.A., late Fellow of Hertford College.
TAUNTON.....	Rev. H. F. Seymour, M.A., late Fellow of All Souls College.
THAME.....	Rev. D. Thomas, M.A., late Fellow of Trinity College.
TRURO.....	Rev. W. P. Chappel, M.A., Worcester College.
WARRINGTON	C. H. Sampson, Esq., M.A., Brasenose College.
WARWICK	Rev. A. C. Irvine, M.A., Balliol College.
WATFORD	Rev. F. B. Lipscomb, M.A., St. Edmund Hall.

Oxford, April 28, 1885.

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EXAMINATION PAPERS.

JUNIOR CANDIDATES.

*I. 1. Reading aloud.

A passage from some English Author.

(The Book selected was Robinson Crusoe.)

WEDNESDAY, JULY 15, from 4 to 4.30 P.M.

I. 2. Passage for Dictation.

[The Examiner is requested,

First, to read the following passage to the Candidates in order that they may catch its general purport;

Then, to dictate it very slowly, giving them ample time to write it down, and telling them where the full stops occur;

Lastly, to read it over a third time, that they may have an opportunity of correcting and punctuating what they have written.]

Promontories and peninsulas projected from their coasts, which the tide daily severed from the main land; and upon these isolated spots their forts were generally erected. To such places it was hardly possible to lay regular siege. The people were wont to assail an enemy's city by advancing towers to its walls; but here the recurring tides would either render their erection impossible, or speedily sweep their basements away. But the command of the sea enabled the garrisons to supply themselves at pleasure with recruits and provision.

* The numbers prefixed to the several Papers correspond with the numbers prefixed to the Subjects in the REGULATIONS.

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TUESDAY, JULY 14, from 11 A.M. to 1 P.M.

I. 3. English Grammar and Composition.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Parse each word in the following passage:—A man is more sure of his conduct when the verdict which he passes upon his own behaviour is confirmed by the opinion of all that know him.

2. Explain, and construct examples to illustrate, the terms—indirect object—gerundial Infinitive—apostrophe—extension of the Predicate.

3. Paraphrase:—

I am, as you know me all, a plain blunt man
That love my friend; and that they know full well
That gave me public leave to speak of him.

4. State and illustrate the distinction between 'strong' and 'weak' Verbs; and give instances of any which have forms characteristic of both classes.

5. Shew what distinctions require to be drawn between (*a*) Verbal forms ending in -ing, (*b*) the several uses of the word 'to.'

6. State grammatical objections to any expressions in the following: (*a*) The waves dash him to earth: there let him lay. (*b*) I do not know who to expect this evening. (*c*) Rufus the Conqueror's son, and who succeeded his father, was more cruel than him.

7. Write a short essay on *one only* of the following subjects:

(*a*) By what tests would you judge whether a Nation be highly civilized or no?

(*b*) A short account of *one* of the following characters: Hannibal—Queen Elizabeth—Washington.

(*c*) Egotism.

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TUESDAY, JULY 14, from 9 to 11 A.M.

I. 4. Arithmetic.

[N.B. **Every Candidate is required to satisfy the Examiners in this Paper.**

No credit will be given for any answer, the full working of which is not shewn.]

1. From the sum of six hundred millions fifty thousand and sixty, and twenty-three thousand and two, subtract the sum of five hundred and two millions five hundred and twenty thousand and nine, and two hundred thousand and one. Express the result in words.

2. Multiply 234125 by 6804, and divide 310 miles 3 fur. 32 po. 5 yds. 2 ft. by 75.

3. Find the number of tons, cwt. etc. in 42874648 drams.

4. From the product of $\frac{2}{3}$, $4\frac{1}{4}$, $3\frac{2}{17}$ subtract the difference of $2\frac{3}{4}$ and $5\frac{1}{12}$.

Express $\cdot 30\dot{1}\dot{0}$ as a vulgar fraction in its lowest terms.

5. Find the value of ·123725 of a ton, and express the result as the decimal of 1 cwt.

6. If a train run 49 miles in 1 hour and 10 minutes; how long will it take to run 770 yards?

7. The taxes paid by a certain householder amount to 11*l.* 15*s.* $7\frac{1}{2}$*d.* at 3*s.* $7\frac{1}{2}$*d.* in the pound. What is the rent of his house?

8. In what time will 156*l.* 13*s.* 4*d.* amount to 166*l.* 18*s.* $11\frac{1}{2}$*d.* at $3\frac{3}{4}$ per cent. per annum, simple interest?

9. A grazier sold 36 sheep for 74*l.* 5*s.* and realised thereby a profit of 10 per cent. What did he give for each sheep?

10. The external dimensions of a box (with a lid) are as follows: length 2 feet, breadth $1\frac{1}{2}$ feet, height 1 foot. How many cubic inches of air are there in it, if the walls of the box be $1\frac{1}{2}$ inches thick?

11. If the wages of 11 labourers for 15 weeks be 103*l.* 2*s.* 6*d.*; in what time will the wages of 13 labourers amount to 170*l.* 12*s.* 6*d.* at the same rate per week?

12. A man invests 5000*l.* in the $3\frac{1}{2}$ per cents. when they are at $73\frac{1}{2}$. What is his income?

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MONDAY, JULY 13, from 2 to 3 P.M.

I. (a) Ruth and I. Samuel.

1. Write out a short summary of the contents of the Book of Ruth.

2. 'In one day shall they die both of them.' Of whom was this prophecy spoken, and how was it fulfilled?

3. Give an account of Samuel's career after he was 'established to be a prophet of the Lord.'

4. Describe David's visit to Nob. What is the difficulty in the New Testament allusion to it?

5. By whom and under what circumstances were the following words spoken?

(a) To obey is better than sacrifice.

(b) Is not the arrow beyond thee?

(c) The soul of my lord shall be bound up in the bundle of life with the Lord my God.

6. Narrate the circumstances of King Saul's death.

MONDAY, JULY 13, from 3 to 4 P.M.

I. (b). The Gospel according to St. Luke.

1. Describe the miraculous draught of fishes recorded in this Gospel.

2. Explain and give the context of the following passages:—

(a) Be content with your wages.

(b) We will not have this man to reign over us.

(c) One thing is needful.

3. What are the lessons taught by the parables of the Unjust Judge, the Prodigal Son, the Rich Man and Lazarus, the Wicked Husbandmen?

4. Give an outline of the Sermon on the Plain.

5. Describe shortly the Triumphal Entry into Jerusalem.

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6. Translate and explain :—

(*a*) Κατανοήσατε τοὺς κόρακας, ὅτι οὐ σπείρουσιν, οὐδὲ θερίζουσιν· οἷς οὐκ ἔστι ταμεῖον οὐδὲ ἀποθήκη, καὶ ὁ Θεὸς τρέφει αὐτούς· πόσῳ μᾶλλον ὑμεῖς διαφέρετε τῶν πετεινῶν ;

(*b*) Ἀναβλέψας δὲ εἶδε τοὺς βάλλοντας τὰ δῶρα αὐτῶν εἰς τὸ γαζοφυλάκιον πλουσίους· εἶδε δὲ καί τινα χήραν πενιχρὰν βάλλουσαν ἐκεῖ δύο λεπτά, καὶ εἶπεν, "Ἀληθῶς λέγω ὑμῖν, ὅτι ἡ χήρα ἡ πτωχὴ αὕτη πλεῖον πάντων ἔβαλεν."

(*c*) Φίλε, χρῆσόν μοι τρεῖς ἄρτους.

MONDAY, JULY 13, from 4 to 5 P.M.

I. (*c*). Acts xiii—xxviii.

1. Give a full account of St. Paul's visit to Philippi.

2. What do you know about the following :—Timotheus, Gallio, Felix, Corinth and Lystra?

3. Give the context, and simple explanation, of the following passages :—

(*a*) 'For it seemed good to the Holy Ghost, and to us.'

(*b*) 'In all things ye are too superstitious.'

(*c*) 'Whom all Asia and the world worshippeth.'

(*d*) 'Almost thou persuadest me to be a Christian.'

4. Give an account of St. Paul's First Missionary Journey, mentioning in order the places which he visited.

5. Describe St. Paul's journey to Rome. What account of his life there is given in the Acts?

6. 'After this I will return and will build again the tabernacle of David which is fallen down....' Complete this passage. Where do the words occur in the Old Testament, and by whom and for what purpose are they quoted in the Acts?

7. Translate :—

Τούτους παραλαβὼν ἁγνίσθητι σὺν αὐτοῖς καὶ δαπάνησον ἐπ' αὐτοῖς, ἵνα ξυρήσωνται τὴν κεφαλήν, καὶ γνῶσι πάντες ὅτι ὧν κατήχηνται περὶ σοῦ οὐδέν ἐστιν, ἀλλὰ στοιχεῖς καὶ αὐτὸς τὸν νόμον φυλάσσων. περὶ δὲ τῶν πεπιστευκότων ἐθνῶν ἡμεῖς ἐπεστείλαμεν, κρίναντες μηδὲν τοιοῦτον τηρεῖν αὐτοὺς εἰ μὴ φυλάσσεσθαι αὐτοὺς τό τε εἰδωλόθυτον καὶ τὸ αἷμα καὶ πνικτὸν καὶ πορνείαν. τότε ὁ Παῦλος παραλαβὼν τοὺς ἄνδρας, τῇ ἐχομένῃ ἡμέρᾳ σὺν αὐτοῖς ἁγνισθεὶς εἰσῄει εἰς τὸ ἱερόν.

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MONDAY, JULY 13, from 6 to 7 P.M.

1. (*d*). Catechism.

1. Explain the meaning of the following words and phrases :—all my betters, Curate, quick, this state of salvation, born in sin.

2. Why are you bound to perform the promises made for you in your baptism?

3. 'The Resurrection of the body.' What does this mean? How may it be proved from Scripture?

4. Can any reasons be given for the order of the petitions in the Lord's Prayer?

5. How is the sixth commandment explained in the Catechism? How did our Lord explain it?

6. 'What meanest thou by this word Sacrament?' Shew how Baptism illustrates this meaning.

WEDNESDAY, JULY 15, from 2 to 4 P.M.

2 (*a*). Greek and Roman History.

[N. B. Candidates are expected to answer some questions from each division of this Paper.]

Greek History.

1. Give an account of Artemisia, Demaratus, Eurybiades, Leonidas, Themistocles.

2. Describe the march of Xerxes from Therma to Salamis, and the preparations made by the Greeks to resist him.

3. Give an account of the battles of Marathon and Plataea, with a geographical description of each place.

4. How do you explain the predominance of Athens and Lacedaemon in Greece? How was the position of these states affected by the Persian wars?

5. Give an account of the career and policy of Pericles, and show how far it was successful.

6. What were the causes of the Peloponnesian War? Was it rightly called a war for the freedom of Greece?

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Roman History.

7. What parts of Italy were subject to the Romans (1) at the time of the Gallic invasion; (2) at the beginning of the Punic Wars? By what means was their power thus extended?

8. What were the objects of the 'secessions of the plebs' at Rome? How far were these objects attained?

9. What was the Roman Senate? In what sense was it the government of Rome?

10. Give an account of the principal events in Sicily in the First Punic War, and show the importance of the island to both Rome and Carthage.

11. Give an account of P. Claudius Pulcher, C. Duilius, Hasdrubal, Xanthippus; and describe the geographical position of Carthage, Ecnomus, Lipara.

12. How was a naval battle fought at the time of the First Punic War? Explain the different tactics of the Romans and Carthaginians.

WEDNESDAY, JULY 15, from 2 to 4 P.M.

2 (*b*). English History.

[N. B. Candidates are expected to answer some questions from each division of this paper.]

1. What remarkable events happened in the reign of (*a*) Henry II, (*b*) Henry V?

2. From what sources were the respective claims of the Yorkists and Lancastrians to the English throne derived? Which family had the best claim?

3. Enumerate any insurrections of the Commons which you remember to have taken place before the seventeenth century.

4. What were the points in dispute between James II and his subjects in 1688?

5. Write a life with dates of William Pitt, the younger, *or* of Simon de Montfort, *or* of Cardinal Beaufort.

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6. Give some account of the writings of Edmund Burke. What other great *political writers* did the seventeenth and eighteenth centuries produce?

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7. Give some account of the following:—The Regent Murray, Sir Philip Sidney, Walsingham, Sir Thomas Wyatt, Archbishop Parker.

8. Contrast the policy and attitude of Cardinal Pole and Stephen Gardiner towards religious matters.

9. Criticise the wisdom and justice of Elizabeth's government of Ireland.

10. What were the relations of Elizabeth
(*a*) to the revolted Netherlands;
(*b*) to the revolted Huguenots?

TUESDAY, JULY 14, from 5.30 to 7.30 P.M.

2. (*c*). Shakspeare's Tempest.

1. Quote the opening lines of the principal Songs in this play, and write out any *one* of them in full.

2. Explain fully the following words and phrases:—yarely, fraughting, with mop and mow, weather-fend, a living drollery, pied ninny, scamels, wezand, windring, lakin.

3. Explain the following with reference to their grammar or their context:—
(*a*) We would so, and then go a bat-fowling.
(*b*) Who to advance and who
To trash for over-topping.
(*c*) Bring her to try with main-course.
(*d*) From the still vex'd Bermoothes.
(*e*) I' the Commonwealth I would by contraries
Execute all things.
(*f*) Here's a maze trod indeed
Through forth-rights and meanders.

4. Mention any passages which refer specially to (*a*) Seamanship, (*b*) the Supernatural, (*c*) Maidenhood.

5. Describe and illustrate the character of Caliban.

6. Illustrate from your knowledge of the play the meaning of the dramatic expressions:—incident, plot, unity, structure, scene, epilogue.

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TUESDAY, JULY 14, from 2 to 4 P.M.

2. (*d*). Geography.

1. In the accompanying map of Germany :—

(1) Trace the boundaries of the chief states.

(2) Trace the course of the Elbe, Rhine, Danube, Weser, Oder, with affluents.

(3) Insert Minden, Gotha, the two Frankfurts, Mainz, Prague, Vienna, Buda-Pesth, Karlsbad, Berlin and Dresden; and in every case insert the names.

2. Describe the situation of Cape S. Roque, S. Salvador, Buenos Ayres, Trinidad, Belem, Lima, and Valparaiso, and give the course of the Parana, the Orinoco, the Magdalena, and the Amazons. Illustrate by sketches.

3. Give the chief European Lakes draining ultimately into the Baltic Sea, the Black Sea, the Mediterranean and the Atlantic.

4. Explain the terms—'oblate spheroid,' moraine, atoll, erosion, detritus, 'Horse latitudes,' equatorial current, meridian.

5. Give some account of Australia and its chief divisions. Illustrate by sketch map.

6. Give the names of the Scotch counties and of their chief towns, arranging the counties in order from North to South.

7. Draw a sketch map of the Mississippi and its feeders.

8. Give a brief account of the chief branches of English export trade, in what districts each article is produced, and what are the chief markets of each.

9. Name the Irish provinces with the chief counties and cities in each.

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WEDNESDAY, JULY 15, from 9 to 10.30 A.M.

3. Latin.

[A Second Latin Paper will be given to you at 10.30 A.M.]

I.

CAESAR, *Bell. Gall. I, II*; VIRGIL, *Aen. XII.*

[N.B. Candidates may not take both Caesar and Virgil.]

For all Candidates.

1. Translate into English:—

Sed eo fama iam praecurrerat, quam supra docuimus, de praelio Dyrrachino. Itaque Androsthenes, praetor Thessaliae, cum se victoriae Pompeii comitem esse mallet, quam socium Caesaris in rebus adversis, omnem ex agris multitudinem servorum ac liberorum in oppidum cogit, portasque praecludit, et ad Scipionem Pompeiumque nuntios mittit, ut sibi subsidio veniant; se confidere munitionibus oppidi, si celeriter succurratur; longinquam oppugnationem sustinere non posse. Scipio, discessu exercituum ab Dyrrachio cognito, Larissam legiones adduxerat; Pompeius nondum Thessaliae adpropinquabat.

For those who offer Caesar.

2. Translate into English:—

(*a*) Caesar, quod neque colloquium interposita causa tolli volebat neque salutem suam Gallorum equitatui committere audebat, commodissimum esse statuit omnibus equis Gallis equitibus detractis eo legionarios milites legionis decimae, cui quam maxime confidebat, imponere, ut praesidium quam amicissimum, si quid opus facto esset, haberet. Quod cum fieret, non irridicule quidam ex militibus decimae legionis dixit; plus quam pollicitus esset, Caesarem facere.

(*b*) Eorum fines Nervii attingebant; quorum de natura moribusque Caesar cum quaereret, sic reperiebat; Nullum aditum esse ad eos mercatoribus; nihil pati vini reliquarumque rerum ad luxuriam pertinentium inferri, quod iis rebus relanguescere animos eorum et remitti virtutem existimarent: esse homines feros magnaeque virtutis, increpitare atque incusare reliquos Belgas, qui se populo Romano dedidissent patriamque virtutem proiecissent: confirmare sese neque legatos missuros neque ullam condicionem pacis accepturos.

3. Give the meaning of—stipendiarii, census, septentriones, matara, obaerati, vineae, tuba, vexillum, sectio, supplicatio.

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For those who offer Virgil.

4. Translate into English :—

(*a*) Hic Venus, indigno nati concussa dolore,
Dictamnum genetrix Cretaea carpit ab Ida,
Puberibus caulem foliis et flore comantem
Purpureo: non illa feris incognita capris
Gramina, quum tergo volucres haesere sagittae.
Hoc Venus, obscuro faciem circumdata nimbo,
Detulit; hoc fusum labris splendentibus amnem
Inficit, occulte medicans; spargitque salubres
Ambrosiae sucos, et odoriferam panaceam.

(*b*) Nec minus Aeneas, quanquam tardata sagitta
Interdum genua impediunt cursumque recusant,
Insequitur, trepidique pedem pede fervidus urget:
Inclusum veluti si quando flumine nactus
Cervum, aut puniceae septum formidine pennae,
Venator cursu canis et latratibus instat;
Ille autem, insidiis et ripa territus alta,
Mille fugit refugitque vias: at vividus Umber
Haeret hians, iam iamque tenet, similisque tenenti
Increpuit malis, morsuque elusus inani est.

5. Translate, and give short explanations of:—

(*a*) Utque dato signo spatia in sua quisque recessit.

(*b*) Vix hostem, alterni si congrediamur, habemus.

(*c*) Se collegit in arma,
Poplite subsidens.

(*d*) Ut capulum ignotum dextramque aspexit inermem.

(*e*) Utque est, nomen erit; commixti corpore tantum
Subsident Teucri.

WEDNESDAY, JULY 15, from 10.30 A.M. to 12.

3. Latin.

II.

1. Translate into Latin :—

In this position they were overtaken on the following morning by a sudden hurricane which blew upon the shore with irresistible fury. The ships were torn from their anchorage, driven against one another, and dashed against

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the cliff. For three days and three nights the tempest raged; and when on the fourth day calm at length returned, the shore was seen strewed for many miles with wrecks and corpses. A great many ships of war were destroyed together with a countless number of transports, stores, and treasures.

2. Translate into Latin:—

(*a*) He was so tired that he remained at Rome, while Antony went to Sicily.

(*b*) Do not ask whether I am satisfied.

(*c*) We approached the serpent and killed it with a large stone.

(*d*) No one doubts that we ought to spare the conquered.

3. Give the chief parts of—metior, rideo, comminiscor, aperio, lacesso, fulcio; decline in plural equa, domus, locus, and in singular alius, ver, aestus, giving genders and meanings; and give the Latin for five, sixteen, twenty-four, thirty-nine, three-hundredth, twenty-times, and 1885.

4. Give examples of desiderative, inceptive, frequentative, and deponent verbs. What is the derivation and meaning of these names?

5. Explain with examples the construction called 'ablative absolute.'

SATURDAY, JULY 18, from 9 to 10.30 A.M.

4. Greek.

A Second Greek Paper will be given to you at 10.30 A.M.

I.

XENOPHON, *Anab.* ii. HOMER, *Od.* ix.

[N. B. Candidates may not take both Xenophon and Homer.]

For all Candidates.

1. Translate:

Μετ' οὐ πολὺ δὲ εἰς πέλαγος ἐνεβαίνομεν, οὐχ ὕδατος, ἀλλὰ γάλακτος. Καὶ νῆσος ἐν αὐτῷ ἐφαίνετο λευκή, πληρὴς ἀμπέλων. Ἦν δὲ ἡ νῆσος τυρὸς μέγιστος, ὡς ὕστερον ἐμφαγόντες ἐμάθομεν· αἱ δ' ἄμπελοι βοτρύων πλήρεις· οὐ μέντοι οἶνον, ἀλλὰ γάλα ἐξ αὐτῶν ἐπίνομεν. Ἱερὸν δ' ἐν μέσῃ τῇ νήσῳ ἀνῳκοδόμητο, Γαλατείας, ὡς ἐδήλου τὸ ἐπιγεγραμμένον. Ὅσον δ' οὖν χρόνον ἐκεῖ ἐμείναμεν, ὄψον μὲν ἡ γῆ καὶ σιτίον ὑπῆρχε, ποτὸν δὲ τὸ ἐκ τῶν βοτρύων γάλα.

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For those who offer Xenophon.

2. Translate :—

(*a*) Καὶ νῦν ἔξεστιν ὑμῖν πιστὰ λαβεῖν παρ' ἡμῶν ἢ μὴν φιλίαν παρέξειν ὑμῖν τὴν χώραν καὶ ἀδόλως ἀπάξειν εἰς τὴν Ἑλλάδα ἀγορὰν παρέχοντας· ὅπου δ' ἂν μὴ ᾖ πρίασθαι, λαμβάνειν ὑμᾶς ἐκ τῆς χώρας ἐάσομεν τὰ ἐπιτήδεια. ὑμᾶς δὲ αὖ ἡμῖν δεήσει ὀμόσαι, ἢ μὴν πορεύσεσθαι ὡς διὰ φιλίας ἀσινῶς σῖτα καὶ ποτὰ λαμβάνοντας, ὁπόταν μὴ ἀγορὰν παρέχωμεν· ἣν δὲ παρέχωμεν ἀγορὰν, ὠνουμένους ἔξειν τὰ ἐπιτήδεια. ταῦτα ἔδοξε, καὶ ὤμοσαν καὶ δεξιὰς ἔδοσαν Τισσαφέρνης καὶ ὁ τῆς βασιλέως γυναικὸς ἀδελφὸς τοῖς τῶν Ἑλλήνων στρατηγοῖς καὶ λοχαγοῖς καὶ ἔλαβον παρὰ τῶν Ἑλλήνων.

(*b*) Ἔνθα δὴ ἀπεκρίνατο Κλεάνωρ μὲν ὁ Ἀρκὰς πρεσβύτατος ὢν ὅτι πρόσθεν ἂν ἀποθάνοιεν ἢ τὰ ὅπλα παραδοίησαν. Πρόξενος δὲ ὁ Θηβαῖος, Ἀλλ' ἐγώ, ἔφη, ὦ Φαλῖνε, θαυμάζω πότερα ὡς κρατῶν βασιλεὺς αἰτεῖ τὰ ὅπλα ἢ ὡς διὰ φιλίαν δῶρα. εἰ μὲν γὰρ ὡς κρατῶν, τί δεῖ αὐτὸν αἰτεῖν καὶ οὐ λαβεῖν ἐλθόντα; εἰ δὲ πείσας βούλεται λαβεῖν, λεγέτω τί ἔσται τοῖς στρατιώταις, ἐὰν αὐτῷ ταῦτα χαρίσωνται. πρὸς ταῦτα Φαλῖνος εἶπε, Βασιλεὺς νικᾶν ἡγεῖται, ἐπεὶ Κῦρον ἀπέκτεινε. τίς γὰρ αὐτῷ ἔστιν ὅστις τῆς ἀρχῆς ἀντιποιεῖται;

3. Translate, commenting on the words underlined :—

(*a*) Εἰ νῦν ἄπιμεν δόξομεν <u>ἐπὶ πολέμῳ</u> ἀπιέναι.

(*b*) Ἅμα αὐτὸς προσελάμβανεν . . . <u>ὥστε πᾶσιν αἰσχύνην εἶναι μὴ οὐ</u> συσπουδάζειν.

(*c*) <u>Οὐκ ἦν ὥρα οἷα τὸ πέδιον ἄρδειν.</u>

For those who offer Homer.

4. Translate :—

(*a*) Οὐ γὰρ Κυκλώπεσσι νέες πάρα μιλτοπάρῃοι,
οὐδ' ἄνδρες νηῶν ἔνι τέκτονες, οἵ κε κάμοιεν
νῆας ἐϋσσέλμους, αἵ κεν τελέοιεν ἕκαστα
ἄστε' ἐπ' ἀνθρώπων ἱκνεύμεναι, οἷά τε πολλὰ
ἄνδρες ἐπ' ἀλλήλους νηυσὶν περόωσι θάλασσαν·
οἵ κέ σφιν καὶ νῆσον ἐϋκτιμένην ἐκάμοντο.

(*b*) Καρπαλίμως δ' εἰς ἄντρον ἀφικόμεθ', οὐδέ μιν ἔνδον
εὕρομεν, ἀλλ' ἐνόμευε νομὸν κάτα πίονα μῆλα.
ἐλθόντες δ' εἰς ἄντρον ἐθηεύμεσθα ἕκαστα·
ταρσοὶ μὲν τυρῶν βρῖθον, στείνοντο δὲ σηκοὶ
ἀρνῶν ἠδ' ἐρίφων· διακεκριμέναι δὲ ἕκασται
ἔρχατο, χωρὶς μὲν πρόγονοι, χωρὶς δὲ μέτασσαι,
χωρὶς δ' αὖθ' ἕρσαι· ναῖον δ' ὀρῷ ἄγγεα πάντα,
γαυλοί τε σκαφίδες τε, τετυγμένα, τοῖς ἐνάμελγεν.

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(c) Ἥδε δέ μοι κατὰ θυμὸν ἀρίστη φαίνετο βουλή.
ἄρσενες οἵϊες ἦσαν ἐϋτρεφέες δασύμαλλοι,
καλοί τε μεγάλοι τε, ἰοδνεφὲς εἶρος ἔχοντες·
τοὺς ἀκέων συνέεργον ἐϋστρεφέεσσι λύγοισιν,
τῇς ἔπι Κύκλωψ εὗδε πέλωρ, ἀθεμίστια εἰδὼς,
σύντρεις αἰνύμενος· ὁ μὲν ἐν μέσῳ ἄνδρα φέρεσκεν,
τὼ δ' ἑτέρω ἑκάτερθεν ἴτην σώοντες ἑταίρους.

5. What is the meaning and derivation of—ταναύποδα, κισσύβιον, ποτιδόρπιον, δολίχαυλος, ἀνήροτος, ἐπικάρσιος?

SATURDAY, JULY 18, from 10.30 A.M. to 12.

4. Greek.

II.

1. Translate into Greek:—

(a) They were prevented from coming at night.

(b) The general knew that he would be defeated if he fought.

(c) We used to buy bread whenever we went to the town.

2. Compare—γεραιός, βραδύς, εὐφυής, πολύς, ἔσω. Give the acc. sing. and dat. pl. of—γυνή, θυγατήρ, πλοῦς, φρέαρ, λείμων.

3. In what ways are adverbial, patronymic, and diminutive terminations formed in Greek?

4. Give the 2nd pers. sing. of the 2nd aor. and perfect active in the indic. imper. and opt. moods of—λαμβάνω, θνήσκω, παραδίδωμι, λείπω, διδράσκω. Distinguish between—αἴρομαι and αἱροῦμαι—ἢ, ἦ, and ᾖ—φαίνω and φαίνομαι—διὰ τοῦτον and διὰ τούτου—δανείζω and δανείζομαι—εἷλον and εἱλόμην.

5. If you offer Homer—

Parse—δασσάμεθα, ἀκαχημένος, ἐπικέλσαι, ἀναδύη, τρυπῷ, ἶνα, ὠκειάων, ἐνέην, δέκτο, ἐρίηρες.

If you offer Xenophon—

Parse—συμμίξειαν, διεσήμηνε, διήρπαστο, ὤμοσαν, σωθῶμεν, ἐκπεπλῆχθαι, τεθυμωμένοι, παρεκλήθησαν, νομιεῖν, διαβῆτε.

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THURSDAY, JULY 16, from 9 to 10.15 A.M.

5. French.

[A second French paper will be given to you at 10.15 A.M.]

I.

1. Translate into English :—

Avez-vous jamais vu le Chinois manger avec ses deux baguettes d'ivoire? Je vous jure que l'honnête fils du Ciel s'en acquitte avec une délicatesse achevée, et nous considère comme des gens bien singuliers avec nos fourches pointues, nos grands et nos petits couteaux et tout notre attirail de chirurgiens: question de latitude. Au moyen âge, dans la bonne compagnie, on changeait de serviettes à chaque service, chacun se trempait le bout des doigts dans de l'eau parfumée avant de se mettre à table et plusieurs fois pendant le repas. Voilà, si je ne me trompe, des délicatesses qui avaient du bon; elles ont disparu: question de mode. . . Eh bien, manger avec ses doigts est encore un usage qui a disparu, mais qui n'avait rien de malpropre en soi. Ce qui est malpropre, c'est de *manger malproprement*, avec les doigts ou avec la fourchette, peu importe. . . En Orient, chez les gens les mieux élevés, la fourchette est encore à peu près inconnue; M. de Moltke racontait l'autre jour un dîner à la turque, sans couteaux, sans fourchettes et sans vin, qu'on lui servit au palais du Sultan.

2. Translate into English :—

(*a*) J'ai donc été trouver le frère de cette fille qui a été épousée. C'est un de ces braves de profession, de ces gens qui sont tous coups d'épée, qui ne parlent que d'échiner, et ne font non plus de conscience de tuer un homme que d'avaler un verre de vin. Je l'ai mis sur ce mariage, lui ai fait voir quelle facilité offrait la raison de la violence pour le faire casser, vos prérogatives du nom de père, et l'appui que vous donneraient auprès de la justice, et votre droit, et votre argent, et vos amis.

(*b*) Il n'y a pas un de tous ces gens-là qui, pour la moindre chose, ne soit capable de donner un soufflet au meilleur droit du monde. Un sergent baillera de faux exploits, sur quoi vous serez condamné sans que vous le sachiez. Votre procureur s'entendra avec votre partie, et vous vendra à beaux deniers comptants. Votre avocat, gagné de même, ne se trouvera point lorsqu'on plaidera votre cause, ou dira des raisons qui ne feront que battre la campagne, et n'iront point au fait.

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3. Translate, and explain where necessary :—

(*a*) Je les aurais joués tous deux par-dessous la jambe.

(*b*) Ne jurons de rien.

(*c*) Ceux qui veulent gloser doivent bien regarder chez eux s'il n'y a rien qui cloche.

(*d*) Je suis tout moulu.

(*e*) Je ne prétends pas qu'on me fasse passer la plume par le bec.

4. Explain the terms—suivre sa pointe, quérir main-forte, demeurer dans la nasse, une venue de coups de bâton.

THURSDAY, JULY 16, from 10.15 A.M. to 12.

5. French.

II.

1. Turn into French :—

Have you a map of Egypt?
Here is one, but it is rather old.
Let us look for a few names.
You will not find them, I fear.
What a fine river the Nile is!
Yes, but the desert is very near it.
Well, the desert only makes the valley all the more cheerful.

2. Give the plural of émail, jeu, don, fou, jet d'eau, vice-président.

3. Give the feminine singular of doux, égyptien, coi, guerrier, ardent, feu, gentil, aigu, pointu, neuf, voleur, empereur.

4. Turn into French :—

The fashion of the day.
Her basket is full; mine is only half full.
He said this and that.
What you offer is too little.
We know this town; we live there.
What do you think of that?
We give them their due.
Is there any fire in this room?
I shall give her eighty pounds.

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5. Give the first person singular preterite indicative [passé défini] of être, s'en aller, courir, fuir, tenir, convenir, mourir, savoir, conduire, coudre, craindre, peindre.

6. Give the French for eloquently, happily, sweetly, justly, correctly, honestly.

7. Turn into French :—

The purity of the Neva water has already been mentioned, yet it is a well-known fact, that when drunk by strangers it produces at first unpleasant effects, for which reason persons, when they first arrive at St. Petersburg, are always advised to drink no water without mixing wine or spirit with it. This lasts, however, for a very short time; and once accustomed to the Neva water, most people grow so fond of it, that they prefer it to every water in the world. A St. Petersburger, on returning from a journey, always congratulates himself on being able to slake his thirst in the water of his beloved river.

FRIDAY, JULY 17, from 9 to 10.30 A.M.

6. German.

A Second German Paper will be given to you at 10.30 A.M.

I.

1. Translate into English :—

Wie unsere Leser sich erinnern werden, brach General Stewart mit etwa 1,500 Mann nach Metemmeh auf, wo ein festes Lager gebildet werden sollte, um von da aus später nach Khartum zu gehen, General Gordon und die Garnison zu befreien und so den Zweck der Nil-Expedition und des ganzen Feldzugs zu erfüllen. Anfangs schien der Wüstenmarsch ohne besondere Hindernisse vor sich gehen zu wollen, denn der Feind liess sich nirgends blicken, und an Wasser und Lebensmitteln war kein Mangel. Als sich nach neuntägigem Marsche jedoch die britische Streitmacht dem Brunnen bei Abu Klea, etwa 23 englische Meilen diesseits Metemmeh, näherte, meldeten die Späher, dass die Brunnen von einer starken feindlichen Truppenmacht besetzt seien. General Stewart concentrirte sofort seine Streitmacht und rückte langsam vor.

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2. Translate into English :—

(*a*) Weil aber Zeit erfordert wurde, einen Plan von diesem Umfang in Erfüllung zu bringen, so begnügte man sich einstweilen, an den Kanälen und Flüssen, welche Antwerpen mit Dendermonde, Gent, Mecheln, Brüssel und andern Plätzen in Verbindung setzen, zahlreiche Basteien anzulegen, und dadurch die Zufuhr zu erschweren. Zugleich wurden in der Nähe dieser Städte, und gleichsam an den Thoren derselben, spanische Besatzungen einquartiert, welche das platte Land verwüsteten, und durch ihre Streifereien die Gegenden umher unsicher machten. So lagen um Gent allein gegen dreitausend Mann herum, und nach Verhältniss um die übrigen. Auf diese Art und vermittelst der geheimen Verständnisse, die er mit den katholischgesinnten Einwohnern derselben unterhielt, hoffte der Herzog, ohne sich selbst zu schwächen, diese Städte nach und nach zu erschöpfen, und durch die Drangsale eines kleinen, aber unaufhörlichen Kriegs, auch ohne eine förmliche Belagerung, endlich zur Uebergabe zu bringen.

(*b*) Philipp II selbst vergab seinem spanischen Stolze so viel, dasz er sich öffentlich für seinen Schuldner bekannte, und sich dieser Verbindlichkeit auf eine würdige Art zu entledigen versprach.

Explain accurately the use of the verb vergeben in this passage.

(*c*) Jede noch so unschuldige Handlung, jede Unterlassung wurde aus dem Gesichtspunkte betrachtet, den man gleich im Eingange festgesetzt hatte, 'dass beide Grafen, in Verbindung mit dem Prinzen von Oranien, getrachtet haben sollten, das königliche Ansehen in den Niederlanden über den Haufen zu werfen, und sich selbst die Regierung des Landes in die Hände zu spielen.'

Give various English equivalents of trachten and über den Haufen zu werfen; explain the exact force of noch (line 1).

FRIDAY, JULY 17, from 10.30 A.M. to 12.

6. German.

II.

1. Translate into German :—

(*a*) The general (*Feldherr*) declared that he had been deceived (*betrügen*) but not conquered (*besiegen*).

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(*b*) Getting up early is a healthy habit (*Gewohnheit*).

(*c*) I have never spoken to him after that occurrence (*Ereigniss*).

(*d*) It was not his fault but his misfortune.

2. Give the gender and genitive singular of the following substantives:—Schlag, Zukunft, Milch, Brod, Name.

3. Decline—das edle Herz; ein schöner Ort; Jedermann.

4. Conjugate the present indicative and imperfect subjunctive of reden, thun.

5. Give the imperfect and past participle of the following verbs:—vorziehen, erleben, laufen, zufliessen, sich vermessen, beichten.

6. Give the German of the following words: afterwards, after (preposition and conjunction); already, not till; when (interrogative), when (relative), whenever. Compose one simple sentence to illustrate each word.

7. Translate into German:—

A fox who had never seen a lion, when he met him for the first time was so terrified that he almost died of fright. When he met him the second time he was still afraid, but concealed his fear. When he saw him the third time, he felt so bold that he went up to him and asked him how he did.

THURSDAY, JULY 16, from 2 to 4.30 P.M.

7. Mathematics.

Algebra.

[No credit will be given for any answer, the full working of which is not shewn.]

1. Find the value, when $x = 1\frac{1}{2}$ and $a = 2$, of

$$12ax + 9a\{5a - 4(a + x)\} - 8x(-5a - 2x).$$

2. Divide

$$8x^3 - 36x^2y + 54xy^2 - 27y^3 - z^3 \quad \text{by} \quad 2x - 3y - z.$$

3. Find the highest common divisor and the lowest common multiple of

(1) $15a^3xy^2$, $24a^2x^3y$, and $45ax^2y^3$;

(2) $x^3 - 4x + 3$ and $x^3 + 4x^2 - 9$.

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4. Simplify:

(1) $\frac{2x}{7}+\frac{a-3x-2y}{15}-\frac{3x+7y-21a}{35}$;

(2) $\frac{x^2-3x+2}{x^2+7x+12}\times\frac{x^2+4x+3}{x^2-6x+8}$;

(3) $\frac{2}{3-\frac{1}{x}}-\frac{2}{3+\frac{1}{x}}-\frac{4}{9x}$.

5. Solve the equations:

(1) $(2a+x)(x-1)+(2a-x)(x+1)=4(ax-2)$;

(2) $\frac{x}{2}+\frac{y}{5}=8,\quad \frac{y}{3}-\frac{x}{5}=3$.

6. A dealer bought 23 horses, for some of which he gave £38 each, and for the rest £45 each; the whole purchase money amounted to £930: how many did he buy at each price?

7. Solve the equations:

(1) $14x^2+19x-105=0$;

(2) $x-\frac{2x}{x-1}-\frac{7}{10}=0$;

(3) $x^2-3xy+y^2=\frac{1}{4},\ x+y=2$.

8. A and B set out together to walk 24 miles; A walks one mile an hour faster than B, and consequently accomplishes the distance in 2 hours less time: find the rate at which each walks.

9. Simplify:

(1) $15\sqrt{6}+3\sqrt{\frac{4}{3}}\times 2\sqrt{\frac{9}{2}}-\sqrt{600}$;

(2) $\left(x-1\right)\left(x+\frac{1}{2}-\frac{\sqrt{-3}}{2}\right)\left(x+\frac{1}{2}+\frac{\sqrt{-3}}{2}\right)$.

10. Prove the rule for finding the sum of n terms of an arithmetical series, of which the first term is a, and the last term is l.

Sum the series:

(1) $3+3\cdot 2+3\cdot 4+$ &c. to 16 terms;

(2) $2\frac{1}{2}+1\frac{2}{3}+1\frac{1}{9}+$ &c. to 5 terms and to infinity.

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11. Prove that

(1) If $a : b :: b : c$,

$$a^2+b^2 : a^2-b^2 :: a+c : a-c;$$

(2) If $a : b :: c : d$, and $a+x : b+x :: c+y : d+y$,

$$x : y :: a : c.$$

12. The first of four proportionals is 1, and the last is 15; the second is the arithmetical mean between the first and third: find the second and third.

FRIDAY, JULY 17, from 2 to 4.30 P.M.

7. Mathematics.

Euclid.

1. Define rectilineal angle, scalene triangle, parallel straight lines, rectangle.

2. If two triangles have two sides of the one equal to two sides of the other, each to each, and have also the angles contained by those sides equal to one another; they shall also have their bases or third sides equal, and the two triangles shall be equal, and their other angles shall be equal, each to each, namely those to which the equal sides are opposite.

3. If one side of a triangle be produced, the exterior angle shall be greater than either of the interior opposite angles.

4. Parallelograms on the same base and between the same parallels are equal to one another.

5. Make a parallelogram which shall be equal to a given triangle and have one of its angles equal to a given rectilineal angle.

6. If a straight line be divided into two equal parts and also into two unequal parts, the rectangle contained by the unequal parts together with the square on the line between the points of section is equal to the square on half the line.

7. In obtuse angled triangles, if a perpendicular be drawn from either of the acute angles to the opposite side produced, the square on the side subtending the obtuse angle is greater

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than the squares on the sides which contain the obtuse angle, by twice the rectangle contained by the side on which, when produced, the perpendicular falls, and the straight line intercepted without the triangle between the perpendicular and the obtuse angle.

8. The angle at the centre of a circle is double of the angle at the circumference which stands on the same base, i. e. on the same arc.

9. If two straight lines cut one another within a circle, the rectangle contained by the segments of the one of them shall be equal to the rectangle contained by the segments of the other.

10. One circle touches another internally at P. AB a chord of the larger circle touches the less at C. Prove that AC and CB subtend equal angles at P.

11. Describe a circle about a given triangle.

12. The sides about the equal angles of triangles which are equiangular to one another are proportionals; and those which are opposite to the equal angles are homologous sides, i. e. are the antecedents or the consequents of the ratios.

13. Define 'duplicate ratio.' Prove that similar triangles are to one another in the duplicate ratio of their homologous sides.

SATURDAY, JULY 18, from 2 to 4.30 P.M.

7. Mathematics.

1. Plane Trigonometry and use of Logarithms.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Define the sine of an angle.

Construct an angle whose sine shall be half the sine of a given angle.

2. Find an expression for all angles having a given cosine.

Determine all the values of x which satisfy the equation

$$\cos(x + 30^\circ) = \cos(2x + 45^\circ).$$

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3. Prove that

(1) $\sin^2 A + \cos^2 A = 1$;

(2) $\sin(A+B) = \sin A \cos B + \cos A \sin B$, drawing the figure for the case in which both A and $A+B$ lie between $90°$ and $180°$;

(3) $\cos 15° - \sin 15° = \frac{1}{\sqrt{2}}$.

4. In a plane triangle a, b, c, A, B, C are the sides and angles, $2s$ is the perimeter and R is the radius of the circumscribed circle, prove that

(1) $a = b \cos C + c \cos B$;

(2) $\sin A = \frac{2}{bc}\sqrt{s(s-a)(s-b)(s-c)}$;

(3) $R = \frac{a}{2 \sin A}$;

(4) $\text{Area} = a^2 \frac{\cos(B-C) + \cos A}{4 \sin A}$.

5. Having given

$$\log 2 = \cdot 3010300, \quad \log 97656 = 4\cdot 9896989,$$
$$\log 97657 = 4\cdot 9897034,$$

find (1) The logarithm of $244\cdot 14$;

(2) The eleventh root of $2 \div \cdot 0009765625$.

6. From a point A on a level plain the angle of elevation of a kite is $\alpha°$, and its direction south; and from a place B which is c yards south of A on the plain the kite is seen northwards at an angle of elevation $\beta°$. Find the distance of the kite from A and its height above the ground.

7. Of a plane triangle the parts a, b, A are given, and $b > a$, prove that there are two solutions; and that if c, c' be the two values of the third side, then

$$cc' = b^2 - a^2.$$

8. In a plane triangle having given that $b = 95$, $c = 72$, $A = 37° 33' 20''$, find B and C, knowing that

$$\log 23 = 1\cdot 3617278, \quad \log 167 = 2\cdot 2227165$$
$$L \cot 18° 46' 40'' = 10\cdot 4685275, \quad L \tan 22° 3' = 9\cdot 6074997,$$
$$L \tan 22° 4' = 9\cdot 6078627.$$

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2. Mensuration.

(Assume $\pi = 3\frac{1}{7}$).

9. The area of a certain circle is half an acre. Find to two places of decimals the number of yards in an arc of its circumference the angle subtended by which at the centre shall be a third of a right angle.

10. From an isosceles triangle whose sides are 9, 6 and 6 feet is cut a square three square feet in area. Find to two places of decimals the length of a side of a square whose area is that of the remainder of the triangle.

11. A pyramid has 20 square feet for the area of its base. Find its height that its volume may be the same as that of a cube each edge of which is of length 5 feet.

12. A sugar-loaf in the form of a frustum of a cone is 20 inches high, 8 inches in diameter at the bottom, and 4 inches in diameter at the top. Find the area of its surface; and also its weight, supposing a cubic inch of sugar to weigh $\frac{42}{55}$ of an ounce.

FRIDAY, JULY 17, from 5.30 to 8 P.M.

8. Mechanics and Mechanism.

[N. B. More credit will be given to a few questions answered fully than to a greater number answered imperfectly. The answers are to be illustrated by diagrams or drawings, where these can be introduced.]

1. What do you mean by the resultant of two forces?

AC is a diagonal of the square *ABCD*, and forces represented by *AB*, *AC* and *AC* in magnitude act in the directions of *AC*, *AB* and *AD* respectively, Find the position and magnitude of their resultant.

2. If three forces in one plane maintain equilibrium their lines of action must meet in a point unless they be parallel.

A string, whose ends are fastened to the ends of a uniform rod the length of which is less than that of the string, passes over a smooth peg and sustains the rod. Prove that in the position of rest the rod must be horizontal.

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3. Find the position and magnitude of the resultant of two parallel forces P and Q acting in opposite directions at the ends of an arm AB.

4. Having given two known masses and their centres of gravity, find the position of the centre of gravity of the two together.

From the area of a square $ABCD$ is removed a rectangle, which has two of its vertices at the middle points of AB, AD respectively, and the other two on the diagonal BD. Find the centre of gravity of the remaining area.

5. Find the ratio of the power to the weight for the inclined plane when the former acts directly up the plane.

Two smooth inclined planes at right angles stand back to back with their line of junction upwards and one of them makes an angle of 60° with the horizon. A weight of 10 lbs. lying on this plane is connected by a string which passes over a small smooth pulley at the common top of the planes with another weight which lies upon the second plane, and there is equilibrium. Find the second weight.

6. Define velocity and acceleration.

What would be the acceleration (supposed constant) of a particle moving in a straight line, which at the beginning of an interval of 10 seconds had a velocity of 10 feet a second, and at the end of that interval one of 20 feet a second; and how far would it have travelled in that interval?

7. Two masses of 10 and 12 lbs. are connected by a string which passes over a smooth pulley without inertia, and hang freely. Find the acceleration of either mass and the tension of the string, assuming that $g = 32{\cdot}2$.

8. A ball thrown up from the surface of a horizontal plane falls back on the plane after 2 seconds, rebounds, and falls again on the plane after one second more. Find the coefficient of elasticity.

9. Describe the object, nature, and method of use of a common hydrometer.

10. A cubical block, the edge of which is one foot, of metal stands at the bottom of a river 10 feet deep. Find the pressure on one of its vertical sides, knowing that a cubic foot of water weighs 1000 ounces.

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11. State Boyle's law as to the pressure of a gas.

Two spherical balloons whose radii are 5 and 4 feet respectively contain equal masses of air at the same temperature, and the pressure in the first is 16 lbs. per square inch: find the pressure per square inch in the second.

WEDNESDAY, JULY 15, from 5.30 to 7.30 P.M.

9. Chemistry.

1. In what manner is potassium chlorate prepared? Describe the changes which take place when this substance is made to yield oxygen.

2. Describe the preparation and properties of sulphuretted hydrogen gas. What simple experiment will show that it contains sulphur? and what products are formed by its combustion in air?

3. From what sources are potassium salts obtained commercially? Given a sample of potassium carbonate, how would you convert it into (1) sulphate, (2) acid-sulphate, (3) sulphite, (4) hydrate?

4. Give equations representing the chemical action which takes place when phosphorus is burnt in excess and deficiency of oxygen, and in excess and deficiency of chlorine; and explain the action of water upon the substances so produced. What is the best test for a phosphate in aqueous solution?

5. What is nitre? Whence is it obtained, and how is nitric acid made from it? Write out the equation for the preparation of this acid from nitre.

6. Describe the experiment in which, by burning the diamond, the composition by weight of carbon dioxide was determined. Give a sketch of the apparatus which was used for this purpose.

7. What substance is produced by the rusting of iron in moist air? Give its formula. What substances are formed when this rust is dissolved in hydrochloric acid; and when hydrogen is passed over it in a tube at a red heat? Give equations.

8. 20 grams of carbon disulphide are burnt in oxygen: what volume of sulphur dioxide at 0° is formed? (1 gram of hydrogen measures 11·2 litres at 0°). S = 32.

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MONDAY, JULY 13, from 11. A.M. to 1. P.M.

9. Chemistry.

(*Practical Examination.*)

The tubes or papers marked I, II, III, and IV contain single substances, consisting of one metallic and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Calcium Phosphate. II. Magnesium Carbonate. III. Lead Chloride. IV. Potassium Nitrate.

TWO HOURS ALLOWED.

Drawing from the Flat.

Copy in pen and ink, or in pencil, the accompanying outline, as nearly as you can the size of the original.

AN HOUR AND A HALF ALLOWED.

Drawing from the Solid.

Make a shaded drawing of the objects placed before you.

In this Exercise the candidate must give careful attention to the gradations of shade in the various surfaces, any method of shading may be employed but the modelling should be expressed by gradation in shade only, not by direction of shading lines. Exaggeration of darkness is particularly to be avoided.

The objects were:—Three Oranges placed in a pile on a flat surface.

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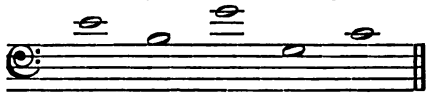
THURSDAY, JULY 16, from 5.30 to 7.30 P.M.

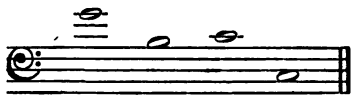
Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. Put (1) these notes (*in the same pitch*) in the *Treble* Clef—

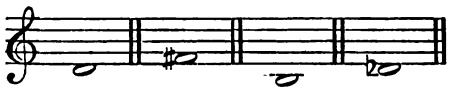


and (2) the following notes (*in the same pitch*) in the Tenor Clef (C Clef.)

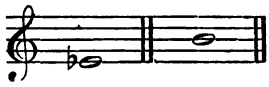


2. Write the major and minor scale (ascending and descending) of E♭.

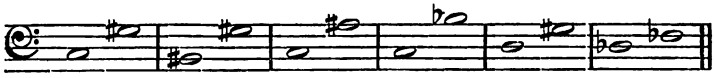
3. Write the Mediant, Submediant, and Leading notes, to *each* of the following *key notes*:—



4. Add a major third, augmented fifth, and minor seventh to *each* of the following notes :—

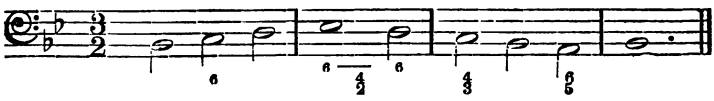


5. *Write* down and *name* the following intervals :—



6. Explain what is the Chord of the Dominant Seventh. Why is it called Dominant? Give examples, in the *keys* of F, D♭ and B.

7. Add three parts to the following bass :—



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EXAMINATION PAPERS.

SENIOR CANDIDATES.

TUESDAY, JULY 14, from 11 A.M. to 1 P.M.

I. 1. English Grammar, Analysis and Composition.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper. Attention should be paid to Spelling, Handwriting, Punctuation, and Correctness of Expression.

Candidates should pay very strict attention to the Parsing. As regards the rest of this paper, they are recommended not to dwell too long over any single question, but (if possible) to answer the whole of the questions.]

1. Analyse:—

If I cannot but wish to receive all good, how should I look to have any part of my desire herein satisfied, unless myself be careful to satisfy the like desire which is in all men, we all being of one and the same nature?

2. Parse—

It is a purposed thing,
To curb the will of the nobility;
Suffer 't, and live with such as cannot rule.

3. Distinguish, with examples, the different classes of adjectives.

4. Analyse the following expressions:—(1) needs must; (2) methinks; (3) he fell asleep; (4) they killed each other; (5) the money is owing.

5. What is the meaning of the predicate? In what ways can expansion of the predicate take place?

6. Explain the derivation and uses of the following words—riches, children, neither, durst, myself, himself, thrice, because.

7. Explain and illustrate the terms—accent, rhyme, alliteration, caesura, Iambus, Heroic Verse.

8. Write a short Essay on—

The influence of a National Literary Academy upon the language and literature of a country.

or

The use and abuse of Biography.

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TUESDAY, JULY 14, from 9 to 11 A.M.

I. 2. Arithmetic.

[N.B. Every Candidate is required to satisfy the Examiners in this Paper.

No credit will be given for any answer, the full working of which is not shewn.]

1. If by selling tea at 2*s.* 3*d.* I lose 10 per cent., at what price must I sell it to gain 15 per cent.?

2. Find the cost of carpeting a room 12 ft. 9 in. by 16 ft. 6 in. with carpet 33 in. wide, at 3*s.* 8*d.* a yard.

3. Find the value both by vulgar fractions and decimals of the sum of $\frac{1}{2}$, $\frac{1}{3}$, and $\frac{10}{11}$, and show that the results agree.

4. A bankrupt pays 4*s.* $8\frac{1}{4}$*d.* in the 1*l.*; his debts are 2002*l.*: what are his assets?

5. Find by Practice the value of 8 a. 3 r. 28 p. at 3*l.* 14*s.* 2*d.* an acre.

6. Reduce 4*l.* 5*s.* $6\frac{3}{4}$*d.* to the decimal of 5*l.*: divide $4\cdot\dot{3}$ by $\cdot\dot{2}\dot{7}$: and find the value of $\cdot 01 \times 19 \times 1\cdot 01 \times 110$.

7. Calculate the simple interest and amount of 1453*l.* 6*s.* 8*d.* at 3 per cent for one-fifth of a year.

8. Find to 3 places of decimals the side of a square whose area is 126·123 sq. feet.

9. What is the difference between the yearly income produced by investing 221*l.* in the three per cents. at 85 and in the three and a half per cents. at 91?

10 Divide 1330*l.* between 3 persons, in the ratios of $\frac{2}{3}$, $\frac{3}{4}$, $\frac{4}{5}$.

11. Simplify $\dfrac{3\frac{2}{3} \text{ of } 3\frac{3}{5}}{2\frac{1}{5} \text{ of } 2\frac{4}{7}} - 5\frac{1}{4} \div 3\frac{1}{2}$: and reduce $\frac{3}{4}$ of 1 lb. 7 oz. 15 dwts. 20 grs. Troy to the fraction of 19 lbs.

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MONDAY, JULY 13, from 2 to 3 P.M.

A (1). Ruth and I Samuel.

1. What indications are to be found in the Book of Ruth of the date of its composition?

2. Shew from the first Book of Samuel what was the nature of the prophetic office.

3. 'The Philistines came no more into the coast of Israel.' How far is this statement justified by the subsequent history of Israel? State briefly the various occasions on which the Israelites came into contact with the Philistines.

4. Give the context and meaning of the following words and phrases as used in your portion of Scripture:—Artillery, an Ephrathite, ear his ground, left his carriage, scrabbled.

5. In what connection do the following words occur?

(*a*) There is none to redeem it beside thee, and I am after thee. And he said, I will redeem it.

(*b*) As his part is that goeth down to the battle so shall his part be that tarrieth by the stuff.

(*c*) The soul of my lord shall be bound up in the bundle of life with the Lord my God.

(*d*) What meaneth this bleating of the sheep in mine ears?

(*e*) There is none like that, give it me.

(*f*) There be many servants now-a-days that brake away every man from his master.

MONDAY, JULY 13, from 3 to 4 P.M.

A. (2). The Gospel according to St. Luke.

1. What circumstances connected with our Lord's birth and childhood are peculiar to St. Luke?

2. Give an account of the Transfiguration, stating its purpose, time, and place.

3. On what occasions were the following parables spoken:—the Good Samaritan, the Rich Fool, the Barren Fig-tree, the Great Supper, the Lost Sheep, the Pounds?

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4. Who were the Herodians, the Scribes, Simeon, Cleopas, Zacchæus?

5. Explain with reference to the context:—

(*a*) Be it unto me according to thy word.

(*b*) If they do these things in a green tree, what shall be done in the dry?

(*c*) Lord, teach us to pray.

(*d*) The Spirit of the Lord is upon me.

(*e*) To whom little is forgiven, the same loveth little.

6. Translate and explain:—

Προσέχετε ἀπὸ τῶν γραμματέων τῶν θελόντων περιπατεῖν ἐν στολαῖς, καὶ φιλούντων ἀσπασμοὺς ἐν ταῖς ἀγοραῖς, καὶ πρωτοκαθεδρίας ἐν ταῖς συναγωγαῖς, καὶ πρωτοκλισίας ἐν τοῖς δείπνοις. οἱ κατεσθίουσι τὰς οἰκίας τῶν χηρῶν, καὶ προφάσει μακρὰ προσεύχονται. οὗτοι λήψονται περισσότερον κρίμα.

Parse—*χηρῶν, προφάσει, λήψονται.*

Explain the words:—*ὑπωπιάζῃ, κερατίων, συκοφαντήσητε, ἐπιγραφῇ, σπήλαιον, τοὺς ἄρτους τῆς προθέσεως.*

MONDAY, JULY 13, from 4 to 5 P.M.

A (3). **Acts xiii—xxviii.**

1. What references do we find in this part of the Acts to Roman customs, and Roman forms of government?

2. Give an outline of St. Paul's speech at Athens: how was it received?

3. State what you know about the Epicureans, Agrippa, Judas and Agabus.

4. Give the context, and explanation, of the following passages:—

(*a*) 'Many of them also which used curious arts brought their books together, and burned them before all men.

(*b*) 'Where prayer was wont to be made.'

(*c*) 'Having shorn his head in Cenchrea, for he had a vow.'

(*d*) 'And brought Greeks also into the temple, and hath polluted this holy place.'

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5. Give an account of St. Paul's Second Missionary Journey.

6. 'It is more blessed to give than to receive.' Whose words are these, and by whom and on what occasion are they quoted?

7. Translate:—

Ὅτε δὲ ἡμέρα ἐγένετο, τὴν γῆν οὐκ ἐπεγίνωσκον· κόλπον δέ τινα κατενόουν ἔχοντα αἰγιαλὸν, εἰς ὃν ἐβουλεύσαντο, εἰ δύναιντο, ἐξώσαι τὸ πλοῖον. Καὶ τὰς ἀγκύρας περιελόντες εἴων εἰς τὴν θάλασσαν, ἅμα ἀνέντες τὰς ζευκτηρίας τῶν πηδαλίων· καὶ ἐπάραντες τὸν ἀρτέμονα τῇ πνεούσῃ κατεῖχον εἰς τὸν αἰγιαλόν. περιπεσόντες δὲ εἰς τόπον διθάλασσον ἐπώκειλαν τὴν ναῦν· καὶ ἡ μὲν πρῴρα ἐρείσασα ἔμενεν ἀσάλευτος, ἡ δὲ πρύμνα ἐλύετο ὑπὸ τῆς βίας τῶν κυμάτων.

8. Translate and explain the following words and sentences:—*εἰσὶν ἡμῖν ἄνδρες τέσσαρες εὐχὴν ἔχοντες ἐφ, ἑαυτῶν*—*εἰς τὸ μεταξὺ σάββατον*—*ἔχουσαν πνεῦμα Πύθωνος*—*ἱεροσύλους*—(*πόλιν*) *νεωκόρον οὖσαν τῆς μεγάλης θεᾶς Ἀρτέμιδος καὶ τοῦ Διοπετοῦς.*

MONDAY, JULY 13, from 7 to 8 P.M.

A (4). The Second Epistle to the Corinthians.

1. Against what accusations brought against him in the Church at Corinth does St. Paul defend himself in this Epistle?

2. How does St. Paul describe his Apostolic Ministry?

3. What may be learnt from this Epistle about Titus? Where else is he mentioned in the New Testament?

4. For what purpose, and with what arguments, does St. Paul solicit alms from the Corinthians?

5. What does St. Paul say about his sufferings? Which of the events here spoken of are mentioned in the Acts of the Apostles?

6. Explain, with reference to the context:—

(*a*) Where the Spirit of the Lord is, there is liberty.

(*b*) What agreement hath the temple of God with idols?

(*c*) Did I make a gain of you by any of them which I sent unto you?

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7. Translate, with explanations where necessary:—

(*a*) Εἰ δὲ καὶ ἰδιώτης τῷ λόγῳ, ἀλλ' οὐ τῇ γνώσει· ἀλλ' ἐν παντὶ φανερωθέντες ἐν πᾶσιν εἰς ὑμᾶς. ἢ ἁμαρτίαν ἐποίησα, ἐμαυτὸν ταπεινῶν ἵνα ὑμεῖς ὑψωθῆτε, ὅτι δωρεὰν τὸ τοῦ Θεοῦ εὐαγγέλιον εὐηγγελισάμην ὑμῖν; ἄλλας ἐκκλησίας ἐσύλησα, λαβὼν ὀψώνιον πρὸς τὴν ὑμῶν διακονίαν· καὶ παρὼν πρὸς ὑμᾶς καὶ ὑστερηθεὶς οὐ κατενάρκησα οὐδενός.

(*b*) Οὐ γάρ ἐσμεν ὡς οἱ πολλοὶ καπηλεύοντες τὸν λόγον τοῦ Θεοῦ, ἀλλ' ὡς ἐξ εἰλικρινείας, ἀλλ' ὡς ἐκ Θεοῦ, κατενώπιον τοῦ Θεοῦ ἐν Χριστῷ λαλοῦμεν.

(*c*) Μηδεμίαν ἐν μηδενὶ διδόντες προσκοπὴν, ἵνα μὴ μωμηθῇ ἡ διακονία.

MONDAY, JULY 13, from 6 to 7 P.M.

A. (5). The Catechism. Morning and Evening Services and Litany. History of the Prayer Book.

1. Can any reasons be given for the order of the clauses in the Lord's Prayer? In what places in the Prayer Book is the Doxology appended, and why?

2. 'What meanest thou by this word Sacrament?' Shew how Baptism illustrates this meaning.

3. Of what parts does the order of Evening Prayer consist? To what more ancient services does it correspond?

4. Explain the following words and expressions, stating where they occur:—anthem, affiance, deadly sin, the Holy Church throughout all the world, this state of salvation.

5. What are Litanies? How did they originate? When was our present Litany first appointed to be used in English?

6. When, under what circumstances, and with what results was the Book of Common Prayer last revised?

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WEDNESDAY, JULY 15, from 2 to 4.30 P.M.

B. I. Greek and Roman History.

[N.B. Candidates are expected to answer some questions from each division of this Paper.]

Greek History.

1. What countries were occupied by the Greek race at the time of the Persian wars? Give some account of the more important states.

2. Describe the movements of the Greek fleet from Artemisium to Salamis, and explain the differences of policy in the commanders.

3. The geographical position, and importance in the Persian wars, of Doriscus, Eretria, Miletus, Mycale, Plataea, Sardis, Therma, Thermopylae.

4. How nearly were all Greeks united against the Persians? Explain the reasons for some of the states holding aloof.

5. What is meant by the 'Athenian Empire'? Describe its growth, and explain the causes of its unpopularity.

6. Compare the power and resources of Athens with those of the Peloponnesian confederacy, and point out the contrasts of national character and modes of warfare.

Roman History.

7. Give the principal points in the struggle by which the consulship and other high offices were opened to the plebeians.

8. Show the importance in Roman history of the Latin and Samnite wars, and give the decisive events in each.

9. Describe the extent of the power of Rome at the beginning of the First Punic War.

10. Give a geographical description of Sicily, and explain its importance in the wars between Rome and Carthage.

11. Describe the campaign of Regulus in Africa, and show how it revealed the weakness of the Carthaginian State.

12. To what was the final success of Rome mainly due? How do you account for the length of the struggle?

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WEDNESDAY, JULY 15, from 2 to 4.30 P.M.

B. 2. English History and Literature.

(N. B. Candidates are expected to answer some questions from each division of this Paper.)

1. Write short accounts of Lanfranc, Anselm, Becket and Langton.

2. Give an account of Edward I's relations to Scotland and Wales. How far did he succeed in his attempt to make himself King over all Britain?

3. Write a short history of the reign of Henry VII.

4. Describe the foreign policy of Oliver Cromwell. Compare it with the policy of Elizabeth and that of the Stuart Kings.

5. Sketch shortly the career of the two William Pitts.

6. Give some account of Magna Carta, Confirmatio Cartarum, the Petition of Right, the Habeas Corpus Act and the Bill of Rights.

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7. Compare Queen Mary's treatment of the Protestants with Queen Elizabeth's treatment of the Catholics. What arguments would have been used to justify their acts?

8. Discuss the age of Elizabeth as an epoch in the history of English navigation and commerce.

9. Write short accounts of—Philip, King of Spain, Sir Francis Walsingham, Sir Christopher Hatton, the Earl of Leicester, the Duke of Alençon, and Archbishops Grindal and Whitgift.

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10. Sketch the history of the English drama up to the time of Shakspeare.

11. Write short critical notices of Hooker's Ecclesiastical Polity, Bacon's Essays, and Spenser's Faery Queen.

12. What do you know of the following:—Gorboduc, The Schoolmaster, Euphues, Tottel's Miscellany and the Martin Marprelate Controversy?

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TUESDAY, JULY 14, from 5.30 to 7.30 P.M.

B. 3. Shakspeare's Tempest, and Burke's Thoughts on the Present Discontents.

Shakspeare's Tempest.

1. Sketch the evidence, external and internal, which enables us to fix approximately the date of The Tempest.

2. Give the meanings of the following words as they occur in this play:—foison, standard, scamels, patch, gaberdine, admire, dry.

3. Quote and explain any geographical references that occur in this play.

4. Explain, with reference to their context, the following passages:—

(*a*) 'Tis far off
And rather like a dream than an assurance
That my remembrance warrants.

(*b*) Her waspish-headed son has broke his arrows,
Swears he will shoot no more but play with sparrows.

(*c*) Here's a maze trod indeed
Through forth-rights and meanders.

(*d*) You
To the perpetual wink for aye might put
This ancient morsel, this Sir Prudence.

(*e*) The red plague rid you
For learning me your language.

5. It has been said that many of the characters in The Tempest are reproductions of characters in earlier plays of Shakspeare. Comment on this statement.

Burke, Thoughts on the Present Discontents.

6. Sketch briefly the Constitutional History of England from 1760 to 1770.

7. Give the substance of Burke's defence of Party Government.

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8. Explain the following allusions:—

(*a*) "A new project was devised .... totally different from the system of administration which had prevailed since the accession of the House of Brunswick."

(*b*) "The Cabal have established a sort of *Rota* in the Court."

(*c*) "The cant of *Not men but measures.*"

(*d*) "Such was the conquest of Corsica by the professed enemies of the freedom of mankind."

9. What are the special characteristics of Burke's style and method of argument?

10. "The system denounced in the 'Present Discontents' was nothing more than an attempt at Reform." Examine this statement.

TUESDAY, JULY 14, from 2 to 4.30 P.M.

B. 4. Physical, Political, and Commercial Geography.

[N. B. Candidates are expected to answer one question *at least* from each section of this paper.]

SECTION I.

1. In the accompanying map of South America—

(1) Trace the range of the Andes, marking Chimborazo, Cotopaxi, Aconcagua, Tolima.

(2) Insert the rivers Orinoco, Parana, São Francisco, Jurua, Xingu.

(3) Mark with an asterisk the position of Cuzco, La Paz, Asuncion, Buenos Ayres, Bogotá, Quito;

and in every case insert the names.

2. Describe the physical features of Australia.

3. Give a sketch map of *either* the Congo, marking (with names) its great lake reservoirs, *or* the Po, marking (with names) its tributaries and the towns on its banks.

4. Explain—Mistral, Isothermal Lines, Glaciers, Tundras.

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SECTION II.

5. Describe the various races which have occupied, or still occupy France. Has its history been greatly affected by the settlements of these races?

6. Enumerate the states included in the German Empire, and their capitals. What do you know of the internal condition of each State?

7. Trace the growth of the colonial empire of England in the eighteenth century.

8. What do you know of the importance and general political condition of Eastern Turkistan, Belgium, Egypt, Madagascar?

SECTION III.

9. Describe the various trade routes between India and Central Asia.

10. Give the reasons of the importance of—Yarkand, Lyons, Zanzibar, Southampton, Chicago.

11. From what countries do we principally import—raisins, mercury, copal, tar, wine?

12. Enumerate the chief products of—Portugal, Central America, British India, Greece, Chili.

TUESDAY, JULY 14, from 2 to 4.30 P.M.

B. 5. Outlines of Political Economy.

1. Explain the different causes by which the rent of land may be raised or lowered, and quote facts in support of your theory.

2. 'Value depends on Cost of Production.' What does this mean, how is it inferred, how far is it supported by experience?

3. At what times and places has the rate of interest been specially high or low? How do you account for the facts?

4. (*a*) Wages depend on the efficiency of labour;
(*b*) Wages are regulated by Supply and Demand.
Explain and criticize these statements.

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5. Trace the operation of different causes which affect general prices.

6. Explain the function of money, the causes determining its value, and the advantages and dangers of paper money.

7. 'Demand for commodities is not demand for labour.' What does this mean, what is its importance, how is it proved, is it always true?

WEDNESDAY, JULY 15, from 9 to 11 A.M.

C. I. Latin.

A Second Latin Paper will be given to you at 11 a.m.

I.

LIVY, *Book* xxii. VIRGIL, *Aen.* xii.

[N. B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate into English:—

Prima terebrato per rara foramina buxo,
  Ut daret, effeci, tibia longa sonos.
Vox placuit; liquidis faciem referentibus undis,
  Vidi virgineas intumuisse genas.
Ars mihi non tanti est; valeas, mea tibia, dixi.
  Excipit abjectam caespite ripa suo.
Inventam Satyrus primum miratur; at usum
  Nescit, et inflatam sentit habere sonum.
Et modo dimittit digitis, modo concipit auras;
  Jamque inter Nymphas arte superbus erat.
Provocat et Phoebum. Phoebo superante pependit;
  Caesa recesserunt a cute membra suâ.

2. Translate into English:—

(*a*) Luce orta cum plebis concilium esset, magis tacita invidia dictatoris favorque magistri equitum animos versabat, quam satis audebant homines ad suadendum quod vulgo placebat prodire: et favore superante auctoritas tamen rogationi deerat. Unus inventus est suasor legis C. Terentius Varro, qui priore anno praetor fuerat, loco non humili solum

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sed etiam sordido ortus. Patrem lanium fuisse ferunt, ipsum institorem mercis, filioque hoc ipso in servilia ejus artis ministeria usum.

(*b*) 'Parentibus,' inquit, 'meis, dictator, quibus te modo nomine, quo fando possum, aequavi, vitam tantum debeo, tibi cum meam salutem tum omnium horum. Itaque plebei scitum, quo oneratus magis quam honoratus sum, primus antiquo abrogoque; et quod tibi mihique, quod exercitibusque his tuis, servato et conservatori, sit felix, sub imperium auspiciumque tuum redeo, et signa haec legionesque restituo. Tu, quaeso, placatus me magisterium equitum, hos ordines suos quemque tenere jubeas.' Tum dextrae interjunctae, militesque contione dimissa ab notis ignotisque benigne atque hospitaliter invitati, laetusque dies ex admodum tristi paulo ante ac prope execrabili factus.

(*c*) Huic Messapus, uti laeva duo forte gerebat
Lenta, levis cursu, praefixa hastilia ferro,
Horum unum certo contorquens dirigit ictu.
Substitit Aeneas et se collegit in arma,
Poplite subsidens; apicem tamen incita summum
Hasta tulit, summasque excussit vertice cristas.
Tum vero assurgunt irae, insidiisque subactus,
Diversos ubi sentit equos currumque referri,
Multa Jovem et laesi testatus foederis aras,
Jam tandem invadit medios, et Marte secundo
Terribilis saevam nullo discrimine caedem
Suscitat, irarumque omnis effundit habenas.

3. Translate and explain where needful:—

(*a*) Gratum sibi Patres Romanos populumque facturum, si omnes res Neapolitanorum suas duxissent, dignosque judicaverint ab quibus donum, animo ac voluntate eorum qui libentes darent quam re majus ampliusque, acciperent.

(*b*) Si quis clepsit, ne populo scelus esto, neve cui cleptum erit.

(*c*) Sacra deosque dabo; socer arma Latinus habeto,
Imperium sollemne socer.

4. Translate accurately and comment on construction or meaning:—Transadigit costas et crates pectoris ensem. Mortalin' decuit violari vulnere divum? Magno mons improbus actu. Digna indigna pati. Irasci in cornua tentat, arboris obnixus trunco.

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WEDNESDAY, JULY 15, from 11 A.M. to 1 P.M.

C. I. Latin.

II.

[N.B. Latin Prose is required of all Candidates in order to obtain exemption from Responsions.]

1. Translate into Latin Prose:—

Socrates, meeting his pupil Alcibiades as he was going to his devotions, and observing his eyes to be fixed upon the earth with great seriousness and attention, tells him that he had reason to be thoughtful on that occasion, since it was possible for a man to bring down evils upon himself by his own prayers; and that those things which the gods send him in answer to his petitions might turn to his destruction. 'This,' says he, 'may not only happen, when a man prays for what he knows is mischievous in its own nature, as Œdipus implored the gods to sow dissension among his sons; but when he prays for what he believes would be for his good, and against what he believes would be to his detriment.'

2. Give the nominative singular, gender, and meaning of litis, vasorum, vadibus, sementem; and the genitive plural of cohors, supellex, facinus, cardo.

3. Give the perfect, supine, and infinitive present of torqueo, pario, pareo, operio, fingo; and parse oblitus, exarsit, dilatum, ictus.

4. Translate into Latin:—'I will explain to you in as few words as possible the meaning of this.' 'Which of the two did this?' 'The enemy pitched two camps.' And give the exact meaning of unusquisque, quotus, quotusquisque, quivis, quilibet.

5. Explain the terms—'Subjective Genitive,' 'Cognate Accusative,' 'Hendiadys.' Illustrate your answers by one sentence in each case.

6. Distinguish between Oratio Recta, and Oratio Obliqua. Quote sentences in illustration.

7. Explain the expressions:—'Ventum erat ad Vestae,' 'haeredem fecit ex dodrante,' 'vadimonium sistere,' 'vasa colligere,' 'bene audire.'

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8. What is meant by Supines? Explain their use and illustrate by examples.

9. For Latin Elegiacs:—

Long years roll'd on—and I saw again
His form in hoary age.
His forehead was deeply furrow'd then,
In life's last feeble stage.

And such is life, and such is man,
In his fleeting course below;
His little day, that in joy began,
Must proceed and end in woe.

SATURDAY, JULY 18, from 9 to 11 A.M.

C. 2. Greek.

A Second Greek Paper will be given to you at 11 A.M.

I.

XEN. *Anab.* I, II. SOPH. *Ajax.*

[N. B. Candidates must shew an acquaintance with each of the authors, and all Candidates should attempt the Unprepared Translation.]

1. Translate:—

Ἐπὶ δὲ τούτῳ ἀνέστη Προκλῆς Φλιάσιος καὶ εἶπεν· Ὅτι μέν, ὦ ἄνδρες Ἀθηναῖοι, εἰ ἐκποδὼν γένοιντο Λακεδαιμόνιοι, ἐπὶ πρώτους ἂν ὑμᾶς στρατεύσαιεν οἱ Θηβαῖοι, πᾶσιν οἶμαι τοῦτο δῆλον εἶναι· τῶν γὰρ ἄλλων μόνους ἂν ὑμᾶς οἴονται ἐμποδὼν γενέσθαι τοῦ ἄρξαι αὐτοὺς τῶν Ἑλλήνων. εἰ δ' οὕτως ἔχει, ἐγὼ μὲν οὐδὲν μᾶλλον Λακεδαιμονίοις ἂν ὑμᾶς ἡγοῦμαι στρατεύσαντας βοηθῆσαι ἢ καὶ ὑμῖν αὐτοῖς. τὸ γὰρ δυσμενεῖς ὄντας ὑμῖν Θηβαίους καὶ ὁμόρους οἰκοῦντας ἡγεμόνας γενέσθαι τῶν Ἑλλήνων πολὺ οἶμαι χαλεπώτερον ἂν ὑμῖν φανῆναι ἢ ὁπότε πόρρω τοὺς ἀντιπάλους εἴχετε.

2. Translate:—

(*a*) Εἰ δέ τινα ὁρῴη δεινὸν ὄντα οἰκονόμον ἐκ τοῦ δικαίου καὶ κατασκευάζοντά τε ἧς ἄρχοι χώρας καὶ προσόδους ποιοῦντα, οὐδένα ἂν πώποτε ἀφείλετο, ἀλλ' ἀεὶ πλείω προσεδίδου· ὥστε καὶ ἡδέως ἐπόνουν καὶ θαρραλέως ἐκτῶντο καὶ ὃ ἐπέπατο αὖ τις ἥκιστα Κῦρον ἔκρυπτεν· οὐ γὰρ φθονῶν τοῖς φανερῶς πλουτοῦσιν ἐφαίνετο, ἀλλὰ πειρώμενος χρῆσθαι τοῖς τῶν ἀποκρυπτομένων χρήμασι. φίλους γε μὴν ὅσους ποιήσαιτο καὶ εὔνους γνοίη ὄντας καὶ ἱκανοὺς

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κρίνειε συνεργοὺς εἶναι ὅ τι τυγχάνοι βουλόμενος κατεργάζεσθαι, ὁμολογεῖται πρὸς πάντων κράτιστος δὴ γενέσθαι θεραπεύειν.

(*b*) Οὐ μὲν δὴ αὐτοῦ γε μένειν οἷόν τε· τὰ γὰρ ἐπιτήδεια οὐκ ἔστιν ἔχειν· ἰέναι δὲ παρὰ τοὺς Κύρου φίλους πάνυ καλὰ ἡμῖν τὰ ἱερὰ ἦν. ὧδε οὖν χρὴ ποιεῖν· ἀπιόντας δειπνεῖν ὅ τι τις ἔχει· ἐπειδὰν δὲ σημήνῃ τῷ κέρατι ὡς ἀναπαύεσθαι, συσκευάζεσθε· ἐπειδὰν δὲ τὸ δεύτερον, ἀνατίθεσθε ἐπὶ τὰ ὑποζύγια· ἐπὶ δὲ τῷ τρίτῳ ἕπεσθε τῷ ἡγουμένῳ, τὰ μὲν ὑποζύγια ἔχοντες πρὸς τοῦ ποταμοῦ, τὰ δὲ ὅπλα ἔξω. ταῦτα ἀκούσαντες οἱ στρατηγοὶ καὶ λοχαγοὶ ἀπῆλθον καὶ ἐποίουν οὕτω. καὶ τὸ λοιπὸν ὁ μὲν ἦρχεν, οἱ δὲ ἐπείθοντο, οὐχ ἑλόμενοι, ἀλλὰ ὁρῶντες ὅτι μόνος ἐφρόνει οἷα ἔδει τὸν ἄρχοντα, οἱ δ' ἄλλοι ἄπειροι ἦσαν.

3. Translate, and if necessary comment upon :—

(*a*) Ξὺν τοῖς παροῦσι τῶν πιστῶν.

(*b*) Ἀναπτύσσειν τὸ κέρας.

(*c*) Θυομένῳ ἰέναι ἐπὶ βασιλέα οὐκ ἐγίνετο τὰ ἱερά.

(*d*) Οἶμαι γὰρ ἂν οὐκ ἀχαρίστως μοι ἕξειν πρὸς ὑμῶν.

4. Translate :—

(*a*) Ἀλλ' ἄνα ἐξ ἐδράνων, ὅπου μακραίωνι
στηρίζει ποτὲ τᾷδ' ἀγωνίῳ σχολᾷ
ἄταν οὐρανίαν φλέγων.
ἐχθρῶν δ' ὕβρις ἀταρβήτως
ὁρμᾶτ' ἐν εὐανέμοις βάσσαις,
πάντων καχαζόντων
γλώσσαις βαρυάλγητα·
ἐμοὶ δ' ἄχος ἔστακεν.

(*b*) Τοῦτο μὲν νιφοστιβεῖς
χειμῶνες ἐκχωροῦσιν εὐκάρπῳ θέρει·
ἐξίσταται δὲ νυκτὸς αἰανῆς κύκλος
τῇ λευκοπώλῳ φέγγος ἡμέρᾳ φλέγειν·
δεινῶν τ' ἄημα πνευμάτων ἐκοίμισε
στένοντα πόντον· ἐν δ' ὁ παγκρατὴς ὕπνος
λύει πεδήσας, οὐδ' ἀεὶ λαβὼν ἔχει.

5. Translate and comment on :—

(*a*) Καὶ τἀμὰ τεύχη μήτ' ἀγωνάρχαι τινὲς
θήσουσ' Ἀχαιοῖς μήθ' ὁ λυμεὼν ἐμός,

(*b*) Ἀλλ' ὥνπερ ἄρχεις ἄρχε, καὶ τὰ σέμν' ἔπη
κόλαζ' ἐκείνους.

(*c*) Οὐ δραπέτην τὸν κλῆρον ἐς μέσον καθεὶς,
ὑγρᾶς ἀρούρας βῶλον, ἀλλ' ὃς εὐλόφου
κυνῆς ἔμελλε πρῶτος ἅλμα κουφιεῖν.

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SATURDAY, JULY 18, from 11 A.M. to 1 P.M.

C. 2. Greek.

II.

1. Translate into Greek Prose:—

O King, when thou gavest the child to me I instantly considered how I could do as thou hadst commanded me, yet not kill it with mine own hands. And this was how I contrived it. I sent for this man, and gave the child over to him, telling him that by the King's orders it was to be put to death. Moreover I commanded him to lay it somewhere in the mountains and to stay near and watch till it was dead: and I threatened him with punishment if he failed. Afterwards, when he had done as I commanded him, and the child had died, I sent trustworthy men, who viewed the body for me, and had it buried.

2. State the rules for the use of *οὐ μὴ* and *μὴ οὐ*.

3. Compare—*ἄγχι, πλήσιος, ἑκάς, κερδάλεος, τλήμων, λάλος.*

Write down the 1st person singular of:—

1st aor. pass. of *σφάζω.*
2nd aor. act. of *προΐημι.*
Perf. act. of *κράζω.*
Perf. pass. of *ἐρείδω.*
2nd aor. opt. pass. of *περιστέλλω.*
Imperf. act. of *ζέω.*

4. What cases are used absolutely in Greek, and under what limitations are they so used?

5. Parse—*διέφθορε, φευξούμεθα, νικῴη, μέθετε, ἀφίξομαι*; and give the genitive sing. and acc. pl. of—*ὅστις, λιμήν, ἔρως, υἱός, χελιδών.*

6. For Greek Iambics:—

Look on thy country, look on fertile France,
And see the cities and the towns defaced
By wasting ruin of the cruel foe!
As looks the mother on her lovely babe,
When death doth close his tender dying eyes,
See, see the pining malady of France:
Behold the wounds, the most unnatural wounds,
Which thou thyself has given her woeful breast:
O, turn thy hostile sword another way:
Strike those that hurt, and hurt not those that help!

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THURSDAY, JULY 16, from 9 to 10.15 A.M.

C. 3. French.

A second French paper will be given to you at 10.15 a.m.

I.

1. Translate into English:—

(*a*) La ville est partagée en diverses sociétés, qui sont comme autant de petites républiques, qui ont leurs lois, leurs usages, leur jargon et leurs mots pour rire. Tant que cet assemblage est dans sa force, et que l'entêtement subsiste, l'on ne trouve rien de bien dit ou de bien fait que ce qui part des siens, et l'on est incapable de goûter ce qui vient d'ailleurs; cela va jusques au mépris pour les gens qui ne sont pas initiés dans leurs mystères. L'homme du monde d'un meilleur esprit, que le hasard a porté au milieu d'eux, leur est étranger. Il se trouve là comme dans un pays lointain, dont il ne connaît ni les routes, ni la langue, ni les mœurs, ni la coutume; il voit un peuple qui cause, bourdonne, parle à l'oreille, éclate de rire, et qui retombe ensuite dans un morne silence; il y perd son maintien, ne trouve pas où placer un seul mot et n'a pas même de quoi écouter. Il ne manque jamais là un mauvais plaisant qui domine, et qui est comme le héros de la société: celui-ci s'est chargé de la joie des autres, et fait toujours rire avant que d'avoir parlé.

(*b*) De temps en temps, il revoyait une de ces maisonnettes en sapin rougeâtre à moitié cachées dans un bouquet de noyers. Le foin déborde par les lucarnes, et sur le balcon, parmi la lessive qui sèche, des paniers à volailles, des poignées d'herbes, des paquets de graine et des bottes d'oignon se balancent au bout de leur ficelle.

Dans le petit verger tout tacheté de soleil, sous les arbres courts et trapus, faits pour résister aux grands vents, de longs sapins creusés en forme de tuyaux, suspendus d'un arbre à l'autre, soutenus par des piquets, tout humides et suintants, conduisent l'eau d'une source voisine dans une auge en granit, rugueuse et grossièrement travaillée, mais tapissée de paillettes miroitantes qui étincellent à travers l'épais cristal.

Il continua sa route vers la forêt. Elle était sombre et fraîche; les sentiers, d'abord frayés sur un sol élastique et noirâtre parmi les bruyères et les fraisiers sauvages, se perdaient bientôt au milieu des racines dénudées qui s'enchevêtraient comme les osiers d'une corbeille. Là, tout était humide, suintant, l'air lui-même était plein de moiteur. Les mousses

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qui recouvraient les rochers et les troncs brillaient et ruisselaient comme brille et ruisselle une touffe de serpolet que baigne la rosée du matin. A l'extrémité des branches noueuses et rongées pendaient de longues chevelures vertes, comme la barbe d'un dieu marin. Une végétation surabondante envahissait le sol, s'accrochait aux arbres, pénétrait partout; jusque dans les fentes des vieux sapins morts, pourris et courbés à terre, les petites plantes poussaient par centaines avec l'ardeur d'héritiers pressés de jouir.

THURSDAY, JULY 16, from 10.15 A.M. to 12.30.

C. 3. **French.**

II.

1. Translate into French:—

When I was quite young we used to live in the town, but when I was twelve years old we went to live in the country. It was then that I learnt to love nature and to admire all its beauties. I used to get up early, and, as soon as I had breakfasted, I went out into the fields and studied the habits of the insects and birds. I acquired thus a taste for natural history, and I have studied it ever since in all my leisure moments. Nothing in life has given me so much pleasure as these first studies of my childhood, when my mind began to wake up and interest itself in the works of creation.

2. Give the rule for the use of the disjunctive personal pronoun as subject and as object to a verb: and translate:—

(*a*) 'They alone have come.'
(*b*) 'Help me and do not leave me.'
(*c*) 'They did not trust us.'

3. Write in the pres. inf. and translate: fond, font—paie, paît—cru, crû—dore, dort—pressĕnt, pressēnt.

4. Explain the dative in the sentence: 'Je le lui fis savoir'; and state what other transitive verbs, besides faire, are thus used as modal verbs with a dative of the agent.

5. Construct French sentences illustrating the way of rendering 'however' before an adjective, and 'whatever' before a substantive; and translate 'Whatever you may say.'

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6. Explain why the Past Participle is invariable in :—

(*a*) Les seize ans que j'ai vécu ;

(*b*) Les malheurs qu'il y a eu ;

(*c*) La maison que j'ai vu bâtir.

7. 'The conjunction si is frequently used with the subjunctive.' Illustrate this; and give instances of si being used with the future and with the conditional.

8. 'Some adverbial locutions, when they begin the sentence, compel it to assume an interrogative form.' Give a list of these adverbs ; and translate : 'Perhaps he will come.'

9. Translate into French :—

Columbus, after his discovery of America, was persecuted by the envy of the Spanish courtiers for the honours which were heaped upon him by the Sovereign : and once at table, when all decorum was banished in the heat of wine, they murmured loudly at the caresses he received; having (as they said), with mere animal resolution, pushed his voyage a few leagues beyond what anyone had chanced to have done before. Columbus heard them with great patience, and taking an egg from the dish, proposed that they should exhibit their ingenuity by making it stand on an end. It went all round, but no one succeeded. 'Give it me, gentlemen,' said Columbus, who then took it, and breaking it at one of the ends, made it stand at once. They all cried out, 'Why, I could have done that.' 'Yes, if the thought had struck you,' replied Columbus: 'and if the thought had struck you, you might have discovered America.'

FRIDAY, JULY 17, from 9 to 10.30 A.M.

C. 4. German.

I.

[A second German paper will be given to you at 10.30 A.M.]

Translate into English :—

(A) Sokrates war ein vortrefflicher Charakter, von vollendeter sittlicher Reinheit und Grösse, der aber nirgends aus dem Rahmen der Griechischen Nationalität heraustrat, ein wirklicher Weiser, dessen heitere Seelenruhe durch keine Leidenschaft getrübt wurde, bei welchem die Vernunft auch keinen Augenblick die Herrschaft über die Sinnlichkeit verlor.

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Xenophons Darstellung zeigt uns in ihm ein Muster der Abhärtung, der Genügsamkeit und der Selbstbeherrschung, einen Mann voll Frömmigkeit und Vaterlandsliebe, einen Charakter voll unbeugsamer Ueberzeugungstreue, einen einsichtigen und zuverlässigen Berather seiner Freunde, vor allem aber den unermüdlichen Menschenbildner, der jede Gelegenheit ergreift, um Alle, mit denen er in Berührung kommt, zur Selbsterkenntniss und Tugend zu führen, und um namentlich bei der Jugend der Selbstüberschätzung und Leichtfertigkeit entgegenzuarbeiten.

(B) Auf! lasst uns fröhlich singen
Ein Lied von Tod und Grab!
Gar herrlich soll es klingen
Ins letzte Bett hinab:
Des Friedhofs stiller Hügel,
Kein Leben deckt er zu,
Der Geist schwingt frohe Flügel
Und fliegt der Heimath zu.

Drum wollen wir fröhlich singen
Ein Lied von Tod und Grab,
Ein Himmelslied soll klingen
Ins Erdenbett hinab!
Die Seele hat gewonnen
Das ew'ge Morgenroth
Und schaut aus heitern Wonnen
Hinab auf Grab und Tod.

(C) Klopstock's Sphäre ist immer das Ideenreich, und ins Unendliche weiss er alles, was er bearbeitet, hinüberzuführen. Man möchte sagen er ziehe allem, was er behandelt, den Körper aus, um es zu Geist zu machen, so wie andere Dichter alles Geistige mit einem Körper bekleiden. Beinahe jeder Genuss, den seine Dichtungen gewähren, muss durch eine Uebung der Denkkraft errungen werden; alle Gefühle, die er und zwar so innig und mächtig in uns zu erregen weiss, strömen aus übersinnlichen Quellen hervor. Daher dieser Ernst, diese Kraft, dieser Schwung, diese Tiefe; daher auch diese immerwährende Spannung des Gemüths, in der wir bei Lesung desselben erhalten werden. Kein Dichter dürfte sich weniger zum Liebling und zum Begleiter durchs Leben schicken, als gerade Klopstock, der uns immer nur aus dem Leben herausführt, immer nur den Geist unter die Waffen ruft, ohne den Sinn mit der ruhigen Gegenwart eines Objects zu erquicken.

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FRIDAY, JULY 17, from 10.30 A.M. to 12.30 P.M.

C. 4. German.

II.

1. Translate into German :—

That evening Loki stole out from Gladsheim, and went alone to visit Iduna in her forest. It was a still, bright evening. The leaves of the trees moved softly up and down, whispering sweet words to each other; the flowers, with half-shut eyes, nodded to their own images in the water, and Iduna sat by the fountain, her head supported on one hand, and dreamed of pleasant things.

2. What cases are governed by the following words:—folgen, sich erbarmen, dienen, vergessen, entbehren? Illustrate by examples.

3. Explain what effect the following conjunctions or adverbs have upon the order of words in a German sentence :—obgleich, daher, denn, dass, wenn. Illustrate your answer by forming sentences.

4. Give the comparative and superlative of the following adjectives or adverbs :—krank, hoch, viel, hübsch, bald.

5. Explain by examples the difference in meaning between 'hin' and 'her,' and enumerate some of the compounds which they form with verbs and adverbs.

6. Translate into German :—

(*a*) We have done our utmost to persuade him to be prudent.

(*b*) What sort of a table has your father bought?

(*c*) This furniture suits the room very well.

(*d*) The 17th of July, 1885 (Heading of a letter).

(*e*) There are many pictures in this hall.

(*f*) There were many soldiers killed in this battle.

7. Translate into German :—

As to the books which you should read, there is hardly anything definite that can be said. For one thing you may be strenuously advised to keep reading. Any good book, any book that is wiser than yourself, will teach you something—

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a great many things if your mind be open to learn. This old counsel of Johnson's is also good, and universally applicable:—'Read the book you do honestly feel a wish and curiosity to read.' The very wish and curiosity indicate that you, then and there, are the person likely to get good of it. 'Our wishes are presentiments of our capabilities,'—that is a noble saying, of deep encouragement to all true men; applicable to our wishes and efforts in regard to reading as to other things. But here also you are to discriminate carefully between true desire and false.

THURSDAY, JULY 16, from 2 to 4.30 P.M.

D. Mathematics.

Algebra.

[N.B. No credit will be given for any answer, the full working of which is not shewn.]

1. Divide

$$(b-y)^2+(x-a)^2+(ay-bx)^2+(ax+by+1)^2 \text{ by } x^2+y^2+1;$$

and multiply

$$x^2-2x^{\frac{4}{3}}-3x+4x^{\frac{2}{3}}-6x^{\frac{1}{3}}+9 \text{ by } x+2x^{\frac{1}{3}}+3.$$

2. Expand

$$(x^2-1)^3+2(1-x)^3-3(x^2-1)(1-x)^2,$$

and extract its square root.

3. Find the L. C. M. of

$$a^3b^3(a^3-b^3),\ a^2b^4(a^4-b^4),\ a^5b(a-b)^2 \text{ and } a^2+ab+b^2;$$

and also the G. C. M. of

$$x^4-2x^3-5x^2-6x-3 \text{ and } x^4-4x^3+x^2-3.$$

4. Simplify the fractional expression

$$\left(\frac{a^2}{a^2+b^2}+\frac{b^2}{a^2-b^2}\right)\div\frac{(a^2+b^2)^2+(a^2-b^2)^2}{(a^2+b^2)^2-(a^2-b^2)^2};$$

and express as a fraction in its lowest terms the difference between

$$\frac{4}{x^2+3x+2} \text{ and the sum of } \frac{3}{x^2+4x+3} \text{ and } \frac{4}{x^2+5x+4}.$$

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5. Solve the equations:

(1) $\left.\begin{array}{l} 5x = 19-2y \\ 4y = 9x-19 \end{array}\right\}$;

(2) $(x-1)^2(x-4)^2+2 = (x-2)^2(x-3)^2-2$.

6. A silversmith bought a number of watches for 100*l.*, and sold all but 10 of them at a profit of 16*s.* 8*d.* each, thus getting back exactly the whole purchase money. Find the number bought.

7. Prove that $(a^m)^n = a^{mn}$ for all integral values of m and n.

Extract the square root, and also the fourth root of

$$17+12\sqrt{2}.$$

8. Solve the equations:

(1) $(x^2-5x+2)^2 = x^2-5x+22$;

(2) $\dfrac{x}{3} = \dfrac{y}{7} = \dfrac{90}{x+y}$;

(3) $\sqrt{x+11}-\sqrt{y+9} = 1 = \sqrt{x}-\sqrt{y}$.

9. Prove that, if a and b be the arithmetic and geometric means between x^2 and y^2, the arithmetic mean between x and y is equal to the square root of the arithmetic mean between a and b.

Sum to n terms and to infinity the series

$$9-3+1-\tfrac{1}{3}, \text{ \&c.}$$

10. Prove that a ratio of greater inequality is diminished by adding the same positive quantity to each of its terms.

Show also that, if $x:a::y:b::z:c$, then

$$(yz^{\frac{1}{2}}+zx^{\frac{1}{2}}+xy^{\frac{1}{2}})^2 : (bc^{\frac{1}{2}}+ca^{\frac{1}{2}}+ab^{\frac{1}{2}})^2 :: (x+y+z)^3 : (a+b+c)^3.$$

11. State the binomial theorem; and find the first five terms in the expansion of $\left(1+\dfrac{x}{5}\right)^{\frac{5}{2}}$.

12. If a, b are the roots of the equation $px^2+qx+r = 0$, show that $a+b$, ab are the roots of $p^2x^2+p(q-r)x-qr = 0$; and find the value of $\dfrac{a}{b}+\dfrac{b}{a}$.

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FRIDAY, JULY 17, from 2 to 4.30 P.M.

D. Mathematics.

Euclid and Conic Sections.

1. Define a parallelogram.

The opposite sides and angles of a parallelogram are equal to one another, and the diameter bisects the parallelogram, that is, divides it into two equal parts.

2. If a straight line be divided into two equal, and also into two unequal parts, the squares on the two unequal parts are together double of the square on half the line and of the square on the line between the points of section.

Show how to divide a given straight line into two parts such that the sum of the squares on the two parts may be the least possible.

3. Define the various kinds of quadrilaterals, and show how they may be classified. When is (1) a quadrilateral, (2) a parallelogram capable of being inscribed in a circle?

4. Describe a square that shall be equal to a given rectilineal figure.

5. Equal straight lines in a circle are equally distant from the centre: and those which are equally distant from the centre are equal to one another.

Prove that equal chords in a circle are tangents to a concentric circle.

6. In a circle the angle in a semicircle is a right angle; but the angle in a segment greater than a semicircle is less than a right angle; and the angle in a segment less than a semicircle is greater than a right angle.

7. Inscribe an equilateral and equiangular quindecagon in a given circle.

8. If two triangles have one angle of the one equal to one angle of the other, and the sides about the equal angles proportionals, the triangles shall be equiangular to one another, and shall have those angles equal which are opposite to the homologous sides.

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9. If from any angle of a triangle a straight line be drawn, perpendicular to the base, the rectangle contained by the sides of the triangle is equal to the rectangle contained by the perpendicular and the diameter of the circle described about the triangle.

Given the base, the vertical angle, and the rectangle contained by the sides of a triangle; shew how to describe it; and, if the base be fixed in position, shew that in general four such triangles can be described.

10. If two planes which cut one another be each of them perpendicular to a third plane, their common section shall be perpendicular to the same plane.

11. If from a point O tangents OQ and OQ' be drawn to a parabola, the two triangles OSQ, $OQ'S$ will be similar, and OS will be a mean proportional between SQ and SQ'.

Prove that the squares of the tangents from any point are proportional to the focal distances of the points of contact.

12. If P be any point on an ellipse and CD be conjugate to CP, then $SP \cdot S'P = CD^2$.

13. The perpendiculars from the foci on any tangent to a hyperbola meet the tangent on the auxiliary circle, and the semi-conjugate axis is a mean proportional between their lengths.

SATURDAY, JULY 18, from 2 to 4.30 P.M.

D. Mathematics.

I. Trigonometry.

1. OA, OB are radii of a circle at right angles to one another, tangents to the circle at A and B meet a radius OP produced in T and t: prove that AT, OT, Bt, Ot are proportional to the tangent, secant, cotangent, and cosecant of the angle AOP.

Account for the sudden transition of the tangent from $+\infty$ to $-\infty$ at $90°$.

2. Prove that

(1) $\cos\theta - 2\cos 5\theta + \cos 9\theta = 2\sin 2\theta(\sin 3\theta - \sin 7\theta\,1)$;

(2) $\sin^3\theta \sin 3\theta + \cos^3\theta \cos 3\theta = \cos^3 2\theta$;

(3) $\sin^{-1}\frac{3}{5} + \cos^{-1}\frac{12}{13} = \tan^{-1}\frac{56}{33}$.

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3. Solve the equation:

$$\cot 2\theta - \cot\theta + \frac{2}{\sqrt{3}} = 0.$$

4. Prove that in any triangle ABC

(1) $a \sin(B-C) + b \sin(C-A) + c \sin(A-B) = 0$;

(2) $4\left(bc \cos^2\frac{A}{2} + ca \cos^2\frac{B}{2} + ab \cos^2\frac{C}{2}\right) = (a+b+c)^2$.

5. In an isosceles triangle, the length of each of the equal sides is 235·39, and the vertical angle is 58°14′; find the length of the base.

log 4·7078 = ·6728180, $L \sin 29° 7'$ = 9·6871628;

log 2·2907 = ·3599682, diff. for unity = 190.

6. If r_a, r_b, r_c are the radii of the circles escribed to the triangle ABC, prove that

$$r_a \cot\frac{A}{2} = r_b \cot\frac{B}{2} = r_c \cot\frac{C}{2}.$$

---

2. Mensuration and Surveying.

7. Two equal circles, of radius 5 inches, intersect one another so that the common chord is a side of a square in each circle: find the area of the space included between the two circles

(π = 3·1416).

8. A frustum of a pyramid has square ends of which the sides are 3 in. and 1 in. respectively; and the vertical height of the frustum is 6 inches: find the volume of the frustum and the area of each of its slant sides.

9. Plan a field from the following notes, and find its area in acres, roods, and poles:

	Yards	
	To B	
	205	
F 87	150	
D 25	80	36 E
C 45	50	
	From A	

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3. Algebraic Geometry.

10. Establish the equation of a straight line in the form

$$\frac{x}{a}+\frac{y}{b}=1.$$

Find the equation of the straight line which passes through the point of intersection of the lines

$$\frac{x}{2}+\frac{y}{3}=1, \quad \frac{x}{3}+\frac{y}{4}=1,$$

and cuts at right angles the line $x+y=1$.

11. Find the equation of the tangent to a circle in terms of the inclination of the normal to a fixed diameter.

If two radii include an angle α, the perpendicular from the extremity of either of them upon the tangent at the extremity of the other : the diameter : : $\sin^2\frac{1}{2}\alpha : 1$.

12. Define a parabola, and investigate its equation in Cartesian coordinates.

Find the equation of the axis, and the coordinates of the focus, of the parabola

$$(x\cos\alpha+y\sin\alpha)^2-4a(x\cos\beta+y\sin\beta)+4a^2=0.$$

13. Find the equation of a chord of a hyperbola connecting two given points on the curve; and prove that, if a chord be produced, the intercepts between the curve and the asymptotes are equal.

Draw the hyperbola

$$(x+y+1)^2=(x-3y)(2x+5y).$$

14. Find the condition that the general equation of the second degree in two variables may represent a series of similar and similarly situated conics.

If a series of ellipses, with equal and parallel axes, are so placed that the chords of section of one of them with each of the others pass through a given point, prove that their centres lie on another and similar ellipse, of which the given point is the centre.

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FRIDAY, JULY 17, from 5.30 to 7.30 P.M.

D. Mathematics.

I. Mechanics and Mechanism.

1. State the 'parallelogram of forces,' and prove it for direction.

One of two forces is given in direction but not in magnitude, and the resultant of the two is of magnitude R and makes an angle a with the direction of that force. Find the least possible magnitude and the corresponding direction of the second force.

2. If two unlike couples in the same plane have equal moments they maintain equilibrium.

In the middle of a row of books standing vertically on a shelf there is a space of $5\sqrt{2}$ inches, and in this space is one book of height 8 and thickness 2 inches (supposed tightly bound) which has fallen from its vertical position and is supported partly by the shelf and partly by the two adjacent books. Supposing books and shelf smooth, show that the pressure of the fallen book on each of the adjacent books is half its weight.

3. Define *centre of parallel forces*, and *centre of gravity*.

Weights P, Q, R are placed at the vertices A, B, C respectively of a triangle, and their centre of gravity is at the centre of the inscribed circle of the triangle. Prove that

$$\frac{P}{\sin A} = \frac{Q}{\sin B} = \frac{R}{\sin C}.$$

4. Find the ratio of power to weight for equilibrium of a system of heavy pulleys which hang by separate vertical strings.

By use of such a system of four pulleys a weight of 1 cwt. 2 qrs. 12 lbs. has to be raised. The pulleys weigh 1, $1\frac{1}{2}$, 2, and 3 lbs. respectively, and are arranged in that order which requires the necessary power to be least. Find the order and the power.

5. Define *mass*, *velocity*, *momentum*.

A war ship whose mass with its armament is 4000 tons is steaming at the rate of 15 miles an hour when a shot of 5 cwt. fired from a pursuing vessel with velocity 1000 feet per second strikes it astern and becomes imbedded in its plating. Find its instantaneously altered velocity.

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6. Prove that the velocity of a particle moving with a constant acceleration from rest varies as the square root of the space traversed.

A hanging mass of 19 lbs. draws one of 13 lbs. by means of a string passing over a smooth pulley without inertia. Find the velocity with which each is moving after passing over a space of 8 feet from rest.

7. An inclined plane makes an angle β with the horizon, and a particle is projected with velocity u at an angle α with the horizon in such a direction that the plane of its parabolic path is at right angles to the inclined plane. Find the range on this plane.

A particle projected from the top of a tower 200 feet high struck the ground 200 feet from the foot of the tower at the end of 5 seconds. Find the velocity and direction of projection, assuming $g = 32$.

8. Define *vis viva* or *kinetic energy*.

Prove that by the direct impact of two imperfectly elastic balls vis viva or kinetic energy is lost.

Two equal balls meet directly with velocities in the ratio of 1 : 3 and lose by the impact one third of their vis viva. Find their mutual coefficient of elasticity.

---

2. Hydrostatics.

9. Define *specific gravity*.

A uniform solid cylinder will float in water with its axis vertical and 1 inch more than half its length immersed, and will also float in a fluid of specific gravity $\frac{3}{4}$ with 8 inches of its length immersed. Find its length, and its specific gravity.

10. The whole pressure on any surface immersed in water is equal to the weight of a cylindrical column of the fluid whose height is the depth of the centre of gravity of the surface below the level of the water and whose sectional area is equal to the surface.

A vessel is in the form of a prism, the two ends of which are right-angled triangles of sides 5, 12, 13 inches and the other three faces rectangles. It is full of water and rests with its rectangular face of mean size on the ground. Prove that the fluid pressures on the three rectangular faces are as 24 : 13 : 5.

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11. Describe and explain the action of the common pump.

The piston stroke of a certain pump is one foot, and extends downwards to the bottom of the barrel; and the height of the bottom of the barrel above the surface of water in the well is 20 feet. Also, the diameter of the piston barrel is double that of the suction tube, which at the beginning of pumping was full of air. Find after how many strokes water will begin to enter the barrel, the height at which the column in a water barometer stands being 32 feet.

THURSDAY, JULY 16, from 5.30 to 7.30 P.M.

E. 1. Physics.

[N.B. No Candidate will pass in this subject who does not shew a fair knowledge of (*a*) and of either (*b*) or (*c*). Any Candidate who attempts any part of (*b*) will not obtain credit for any work he may do in (*c*).

All the calculations are to be given at length, and figures should be drawn of the apparatus referred to.]

(*a*)

1. Three forces of 10, 10, and $9\sqrt{2}$ units act upon a point O in directions OA, OB, OC respectively. If $AOB = 90°$, $BOC = AOC = 135°$, find the magnitude and direction of the resultant.

2. Explain the terms *centre of parallel forces*, *couple*, *moment*.

Shew how to find the relation between the power and the weight in the case of a *heavy* straight lever.

3. Explain fully Newton's second law of motion.

A mass of 8 lbs. moveable on a smooth horizontal plane starts from rest under the action of a constant force. At the end of three seconds its velocity is found to be 12 ft. per sec. Find the force acting, and state in terms of what unit it is measured.

4. Describe Atwood's machine, and explain how it is used to verify the laws of falling bodies.

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5. Explain Archimedes' principle.

What are the conditions of equilibrium of a body floating in a liquid?

6. Explain the construction and mode of action of the air-pump.

(*b*)

1. Define—*declination, dip, intensity.*

Explain the construction and use of an *astatic* combination.

2. Describe some good form of Electrical Machine.

'There is no difference whatever in kind between the electricity produced by friction and that produced by a Galvanic battery.' Mention any experiments you know which support this view.

3. Explain the terms—*electric density, potential, capacity.*

How did Faraday measure the specific inductive capacity of shellac?

4. Explain fully what is meant by the *resistance* of a conductor.

If the resistance of 100 yards of wire ·028 ins in diameter be 4 ohms, find the resistance of 250 yards of wire of the same material ·014 ins in diameter.

5. Describe Grove's battery, and explain its action.

From whence is the energy of the electric current derived?

6. Describe briefly the phenomena of current induction.

(*c*)

1. Explain the terms—*degree of temperature, unit of heat, co-efficient of expansion.*

Describe Ramsden's method of determining the co-efficient of linear expansion of a solid.

2. A small quantity of ether is introduced into the space above a barometric column. Explain the action that takes place. If the space occupied by the ether vapour be diminished (temperature remaining constant), what alteration in the vapour tension will be observed?

3. Give a brief account of the methods by which gases have been liquefied.

4. Describe the apparatus used by Melloni to investigate the transmission of radiant energy through solids and liquids.

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5. 1 lb. of steam at 100° C. is led into a mixture of 6 lbs. of water and 5 lbs. of ice at 0°. Find the resulting temperature.

[Latent heat of steam is 540.
Latent heat of water is 80].

6. What is meant by the Mechanical Equivalent of Heat? Mention any experiments you know in support of the theory that heat is a form of energy.

WEDNESDAY, JULY 15, from 5.30 to 7.30 P.M.

E. 2. Chemistry.

1. How is it shown experimentally that the ratio of the nitrogen to the hydrogen in ammonia is 1 : 3 by volume; and that the molecular weight is 17, and not a multiple of this number?

2. What is the principal ore of mercury, and how is the metal obtained from it? How are mercurous and mercuric chlorides prepared? and what tests would you apply to these salts to prove that they contained mercury?

3. Starting from ammonium chloride, how would you prepare (1) ammonia gas; (2) nitrogen gas; (3) ammonium carbonate? How may a metallic nitrate, such as potassium nitrate, be made to yield ammonia?

4. Mention the source or sources from which arsenic trioxide is chiefly derived; and explain how the metalloid may be obtained from this oxide. Describe a good method for detecting arsenic in solution when present in very small quantity.

5. How would you prepare from ferrous sulphate a specimen of pure dry ferric oxide? How may this oxide be proved to contain oxygen?

6. Describe the standard experiment for determining the composition of air *by weight*. Make a sketch of the apparatus required, and mention any precautions which have to be taken in conducting the experiment.

7. Describe the preparation and properties of hydrogen phosphide. What is the analogy between this gas and ammonia?

8. How many grams of ferrous sulphide are required to give 750 cc. of hydrogen sulphide at 0°C. (1 litre of hydrogen weighs 0·0896 gram.) Fe = 56.

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MONDAY, JULY 13, from 11 A.M. to 1. P.M.

E. 2. Chemistry.

(*Practical Examination.*)

The tubes or envelopes marked I, II, III, IV contain single substances, consisting of one metallic and one non-metallic radical.

You are requested to find out by their reactions what these substances are, and to write a careful account of your experiments.

The substances were:—I. Potassium Bromide. II. Caducium Sulphide. III. Iron Phosphate. IV. Strontium Sulphate.

SATURDAY, JULY 18, from 9 to 11 A.M.

E. 3 (*a*). Botany.

[*Question* 1 *to be taken by all candidates, and one question only from each of the groups* **A**, **B**, **C**, **D** *to be attempted.*]

(Illustrate your answers by drawings.)

1. Describe in concise and (as far as possible) technical terms the specimens marked *A* and *B*.

A.

2. Write a short account of the life-history of a Moss.

3. Write a short account of the life-history of any Fungus.

B.

4. What are the general characteristics of wind-pollinated flowers? How do these differ from flowers pollinated by insects? Give examples.

5. What is a parasite? How does a parasite differ from a saprophyte and from an epiphyte? Give examples of each of these types of plant.

C.

6. Enumerate the parts of an embryo in a dicotyledonous plant. Describe the process of germination in such a plant.

7. Describe the structure of a typical root. How do monocotyledonous plants differ from dicotyledonous plants in the development and duration of the primary root?

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D.

8. What is a sporangium? Describe its typical structure. In what positions is it found in Club-mosses and in flowering-plants?

9. What are stomata? Describe their structure. Of what service are they to a plant, and how is their behaviour influenced by external conditions?

SATURDAY, JULY 18, from 9 to 11 A.M.

E. 3 (*b*). Zoology.

[*Candidates are recommended to answer at least two questions from each division of the Paper, and not to attempt more than five in all.*]

1. What are the points of difference between Fishes and the other Vertebrate Classes?

2. Describe the structure and habits of an Amœba. By what means is it reproduced?

3. What is the 'Notochord'? Describe its structure and explain its zoological importance, tracing its history in the animal scale.

4. What are the main conditions that regulate the geographical distribution of animals? In what regions would you find the greatest abundance of (*a*) Marsupials, (*b*) Edentates, (*c*) large Ungulates?

---

5. Describe the structures concerned in the sense of smell in a Mammal.

6. Describe the microscopic appearances presented by human blood. What are the chief functions of the blood of vertebrates, and in virtue of what properties is it enabled to perform them?

7. Give an account of the structure and function of the human kidney.

8. What is meant by 'reflex action'? Give examples, and describe shortly the structures involved in its performance.

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SATURDAY, JULY 18, from 9 to 11 A.M.

E. 3 (c). Geology and Mineralogy.

1. What is the chemical composition of quartz? Give a list of rocks in which this substance occurs.

2. By what tests can the age of stratified rocks be ascertained?

3. How can aqueous and igneous rocks be distinguished?

4. Describe a fault. Illustrate your answer by drawings.

5. Classify the secondary rocks as completely as possible.

6. Describe the manner in which a river denudes its bed.

7. What is the distribution in time of—Belemnites, Nautilus, Ichthyosaurus, and Trilobites?

8. Describe a volcano at rest and during eruption.

9. Name four characteristic fossils of (1) Eocene, (2) Lias, (3) Mountain limestone.

10. Name and describe the rocks, minerals (A, B, C, D), and fossils (E, F, H, I), giving the chemical composition of the minerals, the mineral constituents of the rocks, and the geological age of the fossils, with some account of their position in the animal kingdom.

The specimens were:—A. Mountain Limestone. B. Quartzite. C. Iron Pyrites. D. Millstone Grit. F. Ammonites jason. F. Rhynchonella concinna. H. Teeth of Sphrœrodus. I. Trigonia impressa.

ONE HOUR AND A HALF ALLOWED.

F. 1. Drawing from the Solid.

Make a shaded drawing of the objects placed before you.

In this Exercise the Candidate must give careful attention to the gradations of shade on the various surfaces. Any method of shading may be employed, but the modelling should be expressed entirely by gradation in shade only, and not by direction of shading lines. Exaggeration of darkness is particularly to be avoided.

The objects were:—Three Oranges placed in a pile on a flat surface.

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F. 2. Drawing in Perspective.

WEDNESDAY, JULY 15, from 5.30 to 7.30 P.M.

[N.B. For this Exercise the ordinary ruled paper is to be used, not drawing paper.]

A hall, 50 ft. long by 30 ft. wide and 15 ft. high, has a pavement of black and white marble squares occupying the middle of the floor, and leaving a clear space of 5 ft. wide all round. The squares are also 5 ft. wide, and have their sides parallel with the walls. Put this in Perspective: supposing the spectator's eye to be 5 ft. to the left of the centre of one end of the hall, and the picture-plane to be 20 ft. distant from him Place a round table 8 ft. diameter, standing in the middle of the hall. Half-inch scale.

THREE HOURS ALLOWED.

F. 3. Drawing in Colour from a Natural Object.

A pelargonium and leaf in a white jam-pot.

ONE HOUR AND A HALF ALLOWED.

F. 4. Drawing from Memory.

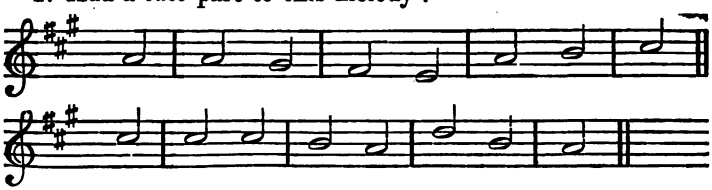
Make a drawing from memory of a mason's hod, half full of bricks.

THURSDAY, JULY 16, from 5.30 to 7.30 P.M.

G. Music.

[N.B. Credit will be given for clear writing of the Music. *All* the answers are to be written on Music Paper.]

1. Add a *bass* part to this melody :—



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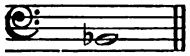
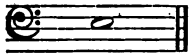
2. Add (1) three augmented fourths (successively, and upwards) beginning with—



and (2) three minor sixths (successively and upwards) beginning with—

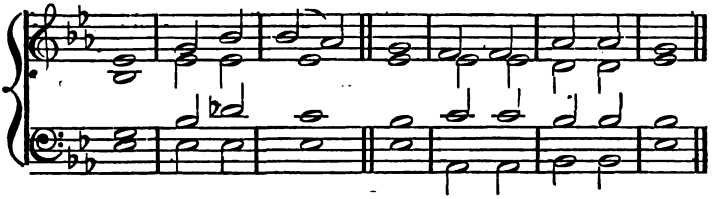


3. Write the Chord of the Dominant Seventh of each of the following *keys*:—

A♭ and D (major), and F and C (minor).

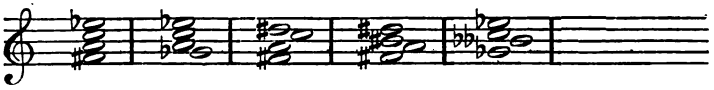
4. Write the major third to D♯, the minor third to C♭, and the augmented sixth to E♭.

5. Write this chant in *open* score (four staves), employing the proper Clefs.

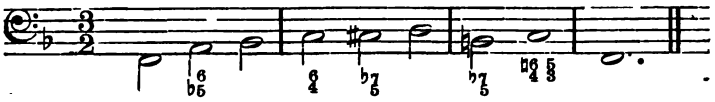


6. State *how* the *key* of a piece of modern music is determined.

7. Give the *roots* of the following chords:—



8. Add *three* parts to the following bass, either in *short* score (that is, Treble and Alto parts in the Treble stave, and Tenor and Bass parts in the Bass stave), or in *open* score, (four staves), with proper Clefs.



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